

BRITAIN'S BEST-SELLING MACINTOSH MAGAZINE

MACFORMAT

Issue 52 ■ JULY 1997 ■ £3.99 WITH HD DISK

US\$10.95 ■ HFL 21,50 ■ £5.00 elsewhere outside UK & Eire

Also available with 2 CD-ROMs



**Transform
your Mac!**

**Exposed! The
upgrades that can
give your Mac new
power! Complete
guide to upgrade
options for every
Mac model**

PLUS Music multimedia – definitive
eight-page guide ■ “Home
DTP” packages tested head-to-head ■ How
to get more from ClarisWorks and FileMaker
Pro 3 ■ Alps MD-4000 – a printer and scanner
in one! ■ A friendlier spreadsheet at last

If your HD disk is missing,
ask your newsagent

future
PUBLISHING
YOUR GUARANTEE
OF VALUE

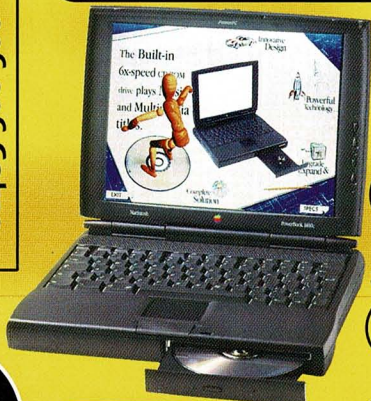


Latest Offers from The Mac Zone

Please
post your
orders to:

Fax us on
01483 500 513
Call us on
01483 500 500

Apple PowerBook 1400



1400CS 117 12/750

£999⁰⁰

1400CS 117 16/750CD

£1,199⁰⁰

1400CS 117 16/750CD
& colour StyleWriter 2200

£1,399⁰⁰

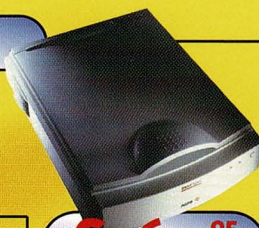
1400C 133 16/1GB CD

£2,049⁰⁰

LOW

Agfa Snapscan

Desktop, flatbed scanner
with one-pass scanning
and max. resolution of
300 x 600 dpi



£169⁹⁵

Performa 5400/160

- 160MHz 603e processor
- 1.6GB HD & 16MB RAM
- Built-in 15" display
- 8x CD-Drive



**INCLUDES COLOUR
STYLEWRITER 1500**

£1,099⁰⁰

Performa 5400/180

- 180MHz 603e processor
- 1.6GB HD & 16MB RAM
- Built-in 15" display
- 8x CD-Drive



**INCLUDES COLOUR
STYLEWRITER 2500**

£1,299⁰⁰

MessagePad 120

Make your information mobile

- 2.5MB memory
- 15 hours of continuous memory
- User controllable back lighting



**SPECIAL
OFFER**

£159⁰⁰

PowerBook 1400 RAM

8MB	£79 ⁰⁰
16MB	£119 ⁰⁰
24MB	£149 ⁰⁰
32MB	£199 ⁰⁰

Genuine Syquest (10)

44MB	£23 ⁹⁵
88MB	£25 ⁹⁵
105MB	£27 ⁹⁵
200MB	£37 ⁹⁵
270MB	£33 ⁹⁵
EZ 135	£11 ⁹⁵
EZ 230	£18 ⁹⁵

d2 Optical (10 off)

128MB	£5 ⁹⁵
230MB	£6 ⁹⁵
640MB	£23 ⁹⁵
1.3GB	£32 ⁹⁵
2.6GB	£47 ⁹⁵
540DZ	£35 ⁹⁵

Record. CD's (74 mins) (10) £4⁷⁵

6 Pack Iomega

100MB zip carts (10) £59⁹⁵

Iomega 1GB jaz carts (10) £69⁹⁵

PLEASE CALL FOR OTHER QUANTITY PRICES.

PPC 168 Pin DIMM's

8MB	£35 ⁰⁰
16MB	£69 ⁰⁰
32MB	£129 ⁰⁰
64MB	£249 ⁰⁰

72 Pin SIMM Memory

4MB	£19 ⁰⁰
8MB	£29 ⁰⁰
16MB	£69 ⁰⁰
32MB	£119 ⁰⁰
64MB	£249 ⁰⁰

30 Pin SIMM Memory

2MB	£15 ⁰⁰
4MB	£22 ⁰⁰
8MB	£49 ⁰⁰
16MB	£79 ⁰⁰

PowerBook 3400 RAM

16MB	£99 ⁰⁰
32MB	£179 ⁰⁰
48MB	£229 ⁰⁰
64MB	£349 ⁰⁰

MEMORY PRICING CAN BE SUBJECT TO
FLUCTUATIONS. PLEASE CALL FOR THE
LATEST PRICES.

Essential Hardware

Formac 17" monitor FST	£349 ⁹⁵
Formac 20" Trinitron monitor	£879 ⁹⁵
Formac ProVision 4/60	£299 ⁹⁵
Olympus C800L	£699 ⁹⁵
Casio QV-300 camera	£549 ⁹⁵
Motorola v.34 28.8 modem	£99 ⁹⁵
Umax S-6E	£179 ⁹⁵
Umax S-12 scanner	£325 ⁰⁰
Umax PowerLook II Pro	£1,499 ⁰⁰
d2 12x CD ROM Drive	£179 ⁹⁵
d2 2x CD Writer	£399 ⁹⁵
d2 DZ-540 Optical Drive	£229 ⁹⁵
d2 2GB AV External Drive	£329 ⁹⁵
d2 CD-ROM PowerChanger	£249 ⁹⁵
Epson Stylus Colour 600	£239 ⁹⁵
Epson Stylus Colour 800	£349 ⁹⁵
Epson Stylus Colour 1520	£629 ⁹⁵
Kodak DC-20 digital camera	£199 ⁹⁵
Fuji DS-7 digi. camera	£449 ⁹⁵
Mac Zone 4x CD ROM Drive	£129 ⁹⁵
Mac Zone Extended Keyboard	£49 ⁹⁵

Essential Software

Adobe Illustrator 7.0	£199 ⁹⁵
Adobe Publishing Collection 1.0	£869 ⁹⁵
Adobe PageMaker 6.5 (upg)	£99 ⁹⁵
Adobe Acrobat 3.0 (upg)	£49 ⁹⁵
Adobe Graphics Collection 2.0	£499 ⁹⁵
CorelDraw 6 (comp. upg)	£89 ⁹⁵
Corel Photo Library CD's ..from	£19 ⁹⁵
Corel Printhouse	£19 ⁹⁵
M.Y.O.B. v.6	£149 ⁹⁵
Microsoft Office (students)	£89 ⁹⁵
FreeHand Graphics Studio	£399 ⁹⁵
Director Multimedia Studio	£799 ⁹⁵
Macromedia Flash	£195 ⁹⁵
Fractal Expression	£129 ⁹⁵
Fractal Painter 4.0	£299 ⁹⁵
Quark Xpress	£619 ⁹⁵
ClarisWorks 4.0 internet ed	£89 ⁹⁵
Dr.Solomon's Anti-Virus	£59 ⁹⁵
Norton Utilities 3.2	£79 ⁹⁵
Ram Doubler 2 (upg)	£24 ⁹⁵
Quay2/VTC training CD's from	£9 ⁹⁵

The Service Zone - Apple Authorised Service Provider

- **REPAIRS** - most Apple equipment
- **WARRANTY** - any Apple item covered by warranty wherever purchased
- **UPGRADES** - memory, hard drives and system software
- We will collect and deliver to your home or office - on site service available in the south east



Call FREE on
0800 393 696



Genesis House,
Merrow Lane,
Merrow,
Guildford
GU4 7BN

Your One Stop Macintosh Supplier



Apple PowerMac 8500/150

complete system

**INCLUDES A FORMAC
17" FST MONITOR
& EXTENDED
KEYBOARD**

- 150MHz PowerPC 604e processor
- 2GB hard disk
- 16MB RAM
- 4x speed CD-Drive
- 3 PCI slots
- 16-bit stereo sound



£1,899.⁰⁰

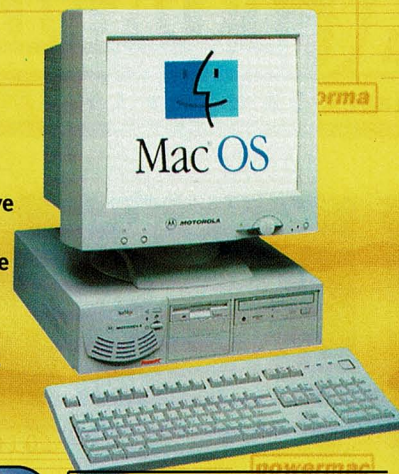
MAC ZONE
EXCLUSIVE

Motorola StarMax

StarMax 3180

- PowerPC 603e 180MHz
- 16MB RAM
- 1.2GB Hard Disk
- 8x speed CD-Drive
- 3 PCI slots
- 32k on-chip cache
- 1MB VRAM

Other StarMax systems also available. Please call for details.



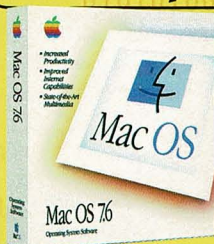
Prices from:

£799.⁰⁰

MacOS 7.6 Upgrade

UPGRADE NOW

- The latest state of the art operating system
- Apple Internet Connection Kit
- Enhanced PC support



£54.⁹⁵

Iomega Zip Drive



Store 100MB at a time on this portable drive.
• Includes one free cart and connection cables

£99.⁹⁵

Apple Performa 5320



SPECIAL OFFER

- 120MHz processor
- 8MB RAM
- 1.2GB Hard Disk
- 4x Speed CD-Drive
- TV Video-In
- 28.8 KBPS Modem
- MPEG card
- 1MB VRAM
- 21 software titles
- Design keyboard & mouse

SPECIAL OFFER

£849.⁰⁰

Apple PowerMac 7500 complete system

**INCLUDES A FORMAC 17" FST MONITOR,
EXTENDED KEYBOARD,
DATEBOOK PRO &
TOUCHBASE PRO**

- 120MHz processor
- 8MB RAM
- 500MB hard disk
- 4x speed CD-Drive
- 64-bit VRAM graphics subsystem
- 3 PCI slots



£1,399.⁰⁰

MAC ZONE
EXCLUSIVE

Apple StyleWriter 1500



£99.⁹⁵

LOW PRICE

Apple StyleWriter 2500



Colour printing for less than £150

£149.⁹⁵

LOW PRICE

Fax us on
01483 500 513
Call us on
01483 500 500

0800 393 696

Call FREE on

Call for your FREE copy of the latest Mac Zone catalogue

Please call for a copy of The Mac Zone terms and conditions of trading. All products and prices are subject to availability. E.& O.E.

20.05

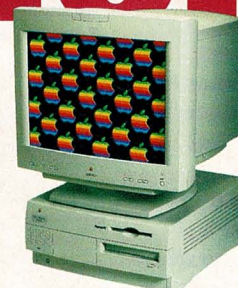




MACFORMAT

Issue 52 ■ JULY 1997

The Finder



The PowerMac 7300 is among Apple's fastest yet: page 65.

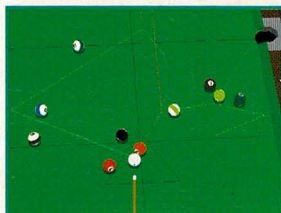
Reviews A-Z

Your easy index to products reviewed in this issue

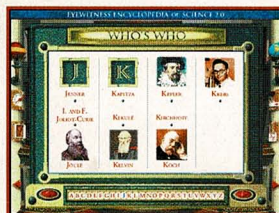
Alps MD-4000 printer	68
Arthur's Birthday	100
Chronicle of the 20th Century	103
Corel Print House 70	
Eve	88
Eyewitness Encyclopedia of Science 2.0	102
Family Organiser	80
Guitar Hits	89
InfoGenie 2	82
Jungle Activated	91
Lighthouse: The Dark Being	108
Motorola StarMax 3420MT Plus	64
Opcode Musicshop 2.0	78
PowerMac 7300/200	65
PowerMac 9600/200	66
Print Artist 4.0	70
Spreadsheet 2000	74
Stanley's Sticker Stories	98
The Sacred Mirror of Kofun	106
Torin's Passage	107
Virtual Pool	105
Voodoo Lounge	90



Sandcastles and sea monsters with Stanley on page 98.



Pull off those tasty trick shots with Virtual Pool: page 105.



Browse through Encyclopaedia of Science 2.0 on page 102.

Buyer's Guide



The Chooser

115

Over 160 products rated, the current Macs from all seven manufacturers in the UK and a step-by-step guide to choosing the right Mac for you.



Free Reader Ads

137

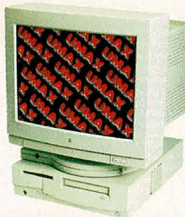
Macs, modems and more in the MACFORMAT reader marketplace.

Win! Win! Win!



180MHz upgrade card 140

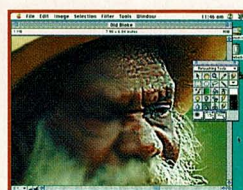
Boost your PCI PowerMac's power with this XLR8 MACH Speed 604e 180MHz processor daughterboard, worth £440, from Computers Unlimited.



Umax Apus 2000 AV 146

Win a powerful new Mac compatible with audio-visual capabilities, complete with a monitor. It's worth nearly £1,500, and it could be yours, courtesy of Umax and IMC!

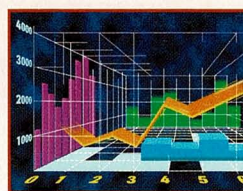
How to...



Use Color It

50

Image editing software comes into its own when you need to tidy up marks and blemishes on your image. We show you how to retouch with Color It! – free with MACFORMAT 50.



ClarisWorks

52

The ClarisWorks word processor doesn't offer a feature for making tables – but the ClarisWorks spreadsheet does. Here's how to bring the two together to create brilliant reports.



FileMaker Pro 3

54

Useful doesn't mean grey and boring: we show you how to create attractive and legible tables out of the most complex information with FileMaker Pro 3.

Regulars



Welcome to MACFORMAT

7

Go face-to-face with the MACFORMAT team and find out what we'd like to see upgraded.



News

16

Last month Larry Ellison was thinking about launching an Apple takeover bid; what's he decided to do? Plus: Apple unveils the radical new Mac OS 8.



What's New: product news

22

Fractal offers exciting new image editing features in Painter 5.0, while Quark reveals its newest version of DTP giant QuarkXPress. Plus: which is the latest firm to jump on board the Mac clone bandwagon?



Apple Talk: letters

28

Is Apple making the most of its strength in education? Plus: why PowerMacs are bad for you.



MacAnswers

56

The latest bugs and how to fix them; rebuilding stubborn Desktops; the millennium and more.



Subscribe to MACFORMAT

99

Save money and receive a special gift when you subscribe.

Back Issues

142

Complete your collection and try our new fax-back service.

Contacts

144

How to contact us and where to go for information.

Mac and Tosh

144

The touching tale of a man and his Macintosh...

Next Issue

145

This is where we get (ahem) a quick plug in for our next issue.



Find out if the latest Mac joystick will become Top Gun: page 22.



Upgrading: page 32



You don't *have* to buy a new Mac – there's lots of ways to boost the power, speed and capabilities of your present machine. Our complete guide to upgrades for *your* Mac will show you just how much you could enhance its processor, memory, hard disk and performance – and how easy it can be!

Transform your Mac!



Roll over Beethoven

Music multimedia

page 84



Discover the latest music CD-ROMs to rock the house. Plus: how you tell the difference between CD Extra, Video CD and CD-ROM?

"Home DTP"

page 70

MACFORMAT tests two packages which each offer an all-in-one solution for creating beautiful documents at home.

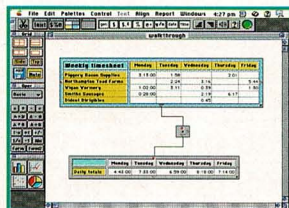


Spreadsheet 2000

page 74



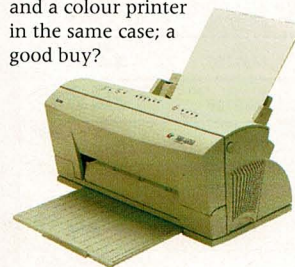
One of the most radical programs of last year gets remodelled; has it made spreadsheets more useful?



Alps MD-4000

page 68

An unusual take on digital imaging brings you a scanner and a colour printer in the same case; a good buy?



ON THE CD MACFORMAT Cover Discs



This logo in the mag indicates programs on the CD.

MACFORMAT is available in your choice of a CD-ROM or a high-density floppy disk edition every issue:

Your Cover CDs 8

Complete! The world's leading multimedia astronomy program! PLUS an exclusive preview of *Broken Sword*,

demos of *Fallout*, *Spreadsheet 2000*, *F/A-18 Hornet 3* and *Extensis Plug-ins*, invaluable resources for your Mac, readers' artwork, over 100Mb of the latest shareware from the Internet, plus everything below...

Your floppy disk 14

Arcade blasting with *Grid Warrior 1.2*, nail-biting strategy with *MineSweeper Pro*, plus better clippings with *ClipDragon*, *8-Ball Emulator*, handy utilities and *Squeaky Toy*!



Reviews

Our reviews policy

63

Why you can trust a MACFORMAT review.



Hardware

Macs

64

The latest from Apple and Motorola:

Motorola StarMax 3420MT Plus

64

PowerMac 7300/200

65

PowerMac 9600/200

66

Alps MD-4000 printer/scanner

68

Two for the price of one; is either worth it?



Productivity

Print Artist 4.0 and Corel Print House

70

Two packages offering art and design help for beginners; which is top of the DTP tree?

Spreadsheet 2000

74



Let's *KISS* offered an innovative approach to number-crunching; can this revamp improve the formula?

Opcode Musicshop 2.0

78

Could *Musicshop* be the low-cost, all-in-one introduction to music you've been waiting for?

Family Organiser

88



A distinctive package for arranging your lifestyle; but do its quirky ideas pay off?

InfoGenie 2

88



Discover if this simpler approach to sorting your information still gives you the power you need.



Leisure



Music multimedia

84

One of these music CD-ROMs is the most innovative we've seen in ages...

Eve

88

Guitar Hits

89

Voodoo Lounge

90

Jungle Activated

91

Multimedia

98

Our choice of the month's new kids' CD-ROMs, plus two more crackers from Dorling Kindersley.

Stanley's Sticker Stories

98

Arthur's Birthday

100

Eyewitness Encyclopedia of Science 2.0

102

Chronicle of the 20th Century

103

Games

105



Try your luck on a 3D pool table and sample far-flung worlds in the latest adventures.

Virtual Pool

105

The Sacred Mirror of Kofun

106

Torin's Passage

107

Lighthouse: The Dark Being

108



Shareware Central 110

Arcade classic *Bomber Man* is now on the Mac; plus all the latest utilities.

Price Promise
We will MATCH
or BEAT ANY
price!
See details below

We promise you the **LOWEST PRICES** on Memory, Media & Drives!



Best Selling MEMORY

Vram & Cache Cards



	4Mb	8Mb	16Mb	32Mb	64Mb
30 Pin Simms Mac II, LC, LCII, Q700, Q900	£28	£44	£78	-	-
72 Pin Simms 475, Q600, Q630, Q660AV, PM6100, 7100, 8100	£14	£28	£58	£114	-
168 Pin Dimms PM7200, 7500, 7600, 7300, 8200, 8500, 8600, 9500, 9600, Umax Pulsar	-	£34	£58	£124	£238
168 Pin EDO Dimms PM4000, Motorola Starmax	-	£36	£64	£124	£238

1Mb VRAM DIMM 1Mb VRAM 7200/7500/8500	V1024 £24
256k VRAM 256K VRAM Ilvi/Ilvx/Q700/Q900	V256 £13
256k Cache Card 256k Cache Card 6100/7100/8100	CC256 £28

Best Selling MEDIA & DRIVES



Verbatim 128Mb Disk	M89396	£6.99
Verbatim 230Mb Disk	M90672	£6.99
Verbatim 640Mb Disk	M91250	£22.99
Verbatim 1.3Gb Disk	M89109	£29.99
Verbatim 2.6Gb Disk	M91204	£39.99
Verbatim 650Mb Datalife Plus 74min	M91224	£3.99
Verbatim 90m DAT Tape	M88195	£4.49
Verbatim 120m DAT Tape	M89547	£12.49
Iomega 100Mb Zip Disk	D100ZIPCART	£9.69
Iomega 1Gb Jaz Disk	D1JAZCART	£58.00
Syquest 44Mb Cartridge	MSQY44	£24.95
Syquest 88Mb Cartridge	MSQY88	£29.99
Syquest 1.3Gb Cartridge	DSYQ1.3C	£78.00

2Gb IBM AV Ext	D2GIE	£288
4Gb Quantum AV Ext	D4GQE	£608
4Gb IBM AV Ext	D4GIE/2	£488
9Gb Fujitsu Ext	D9GFE	£898
2Gb Quantum AV Int	D2GQI	£194
2Gb IBM AV Int	D2GII	£258
4Gb Quantum AV Int	D4GQI	£652
4Gb IBM AV Int SPECIAL	D4GII	£299
Verbatim 640Mb OptiDriver	OF640E	£338
Formac 6xCD Writer	DCDR46EF	£478
Iomega 100Mb Zip Drive	D100ZIP	£88
Iomega 1Gb Jaz Drive	D1GJAZIE	£298

*We constantly monitor competitors prices to make sure that we can offer you the best value for money deals around. Our Price Promise policy is to match or beat competitors prices for any product we stock. This is provided the product is new and is the same model, specification and version, is supported to the same post-sale levels we offer, is in stock, has

the same warranty and is available from the competitor on the same day of purchase. In some cases where margins are particularly tight we may require to see a written quotation from the other party. Unfortunately, the price promise is not applicable to sales where manufacturer backed Corporate or Educational discounts are quoted.



To Order Call

Opening Hours

Mon - Fri: 9am - 6pm
Saturday: 9.30pm - 1pm

A 24hrs answering service operates outside these hours.

01784 477444

All prices are for business users and exclude VAT. Next Day delivery from £9 or 48 hour delivery from £5.50. Prices and descriptions are correct at time of going to press, but may change. E&OE. All orders are subject to our terms and conditions which are available on request. We may make our mailing list available to other companies, please let us know if you would like to be excluded. © Performance Direct 1997.



NO credit card surcharges

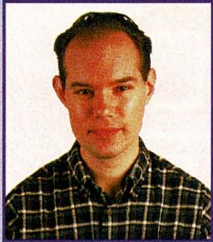
Please quote code
MACF07 when
ordering



Welcome to MACFORMAT

Everything you wanted to know about MACFORMAT, plus what we'd like to see upgraded on our Macs...

Meet the MF team



Richard Hill

Our Deputy Editor and news guru says: "The Future Publishing Fairy granted my wish for an upgrade recently, when my tiring office Performa changed magically into an energetic PowerMac. Now I'm dying to set Mac OS 8 loose on it."



Lindsay Bruce

Our Technical Writer is always upgrading his Mac – or at least, that's what he calls it. We're not quite so sure that plugging in, bolting on or splicing in any and every bit of kit that happens to come into the office really deserves the name of *upgrading*. Does make his machine look more impressive, though, we have to admit. In a Heath Robinson kind of way.



Brian Smith

Our Disc Editor says: "I have to work with CDs all day, so my fave upgrade would be a *really* fast CD reader/writer combination. That way I could burn our Cover Disc and check it in the same day! I'm not asking for anything impossible, just 22x or 24x speed – oh and could it make the coffee as well?"



Derek Smith

As the company's roving software trouble-shooter and our all-round Mac technical expert, Derek has a host of upgrades in mind: a cola-proof keyboard, a floppy drive with a wide mouth, a mouse with two balls, a 604e processor that can hum "Moon River", and a monitor that picks up Channel 5. Okay, scrap that last one.



Rod Lawton

MACFORMAT's productivity software specialist says the upgrade he'd really like to see is a System version that didn't crash. He thought Apple had finally done it when he heard that System 7.6 "eliminates" the dreaded Type 11 error, but then he found out what that means: his Mac doesn't crash less, it just gives you error messages with different numbers.



Alex Summersby

Editor

you'll also have to write off your investment in those cards. And what if you've splashed out on old-style DIMM (or perhaps SIMM) memory upgrades? They won't fit into a new machine, so that new model starts to look very costly...

On the other hand, the range of upgrade options for older Macs is getting more and more limited, as manufacturers discontinue cards that fewer and fewer people will be wanting to buy. For instance, there are no PowerPC upgrades for 68K Macs available just now (though there may be again in the future).

Yet, as this issue's comprehensive guide shows, there's many ways to boost the power and performance of *your* Mac, whichever model it is – and some of the easiest and least expensive can be the most effective. New Macs are better value than ever, but there's almost certainly a cost-effective option to help you get more from your old Mac too.

Alex

Whatever Mac you've got, two things are certain.

First, they'll bring out a new, improved version six months (max) after you bought yours, and costing about a third less. Second, probably around the same time, you'll start to wonder whether you should spend yet more money and upgrade your machine or just bite the bullet and buy a new one.

It's a tough question. The answer doesn't depend simply on how much that new Mac is going to cost you, but also on how much you've already invested in the one you have now. If, for instance, you have an older model Mac with NuBus expansion slots and you've already got NuBus cards fitted, buying a new PCI-standard Mac means

About MACFORMAT

Welcome to MACFORMAT, Britain's best selling Mac magazine. MF is for you, the person at a Mac keyboard. Every issue we bring you:

■ **Tips, techniques and practical step-by-step tutorials** covering the whole range of Mac applications, to help you learn how to get more from your software.

■ **Features** about exciting Mac developments and novel uses, accompanied by software on our Cover CD whenever possible, so you can discover what your machine can do and try things you mightn't have tried before.

■ The latest Mac-related **news**,

plus all you want to know about the wider issues, the people behind the headlines and the stories behind the stories.

■ **Authoritative, independent reviews** of interesting and affordable products, with clear buying recommendations.

■ **Cover Disks and CD-ROMs** with demos so you can try software for yourself before you buy, useful programs specially chosen to complement features in the magazine, selected shareware, games, readers' contributions and much more.

Whether you're a veteran or a novice, MACFORMAT will help you get more out of your Macintosh, whatever you use it for.

A word about prices...

We try to ensure that all prices quoted in editorial pages in MACFORMAT are accurate at the time of going to press, and they all *include* UK Value Added Tax at 17.5%. However, this may not necessarily be the case with prices appearing in advertisements, so we recommend that you always contact advertisers before ordering to confirm prices and availability.

■ We make every effort to verify all the information we publish, but products and prices do change. We always quote list prices (RRPs), but street prices vary. Shop around, and check with the supplier before buying to make sure that the product you're considering will meet your needs. MACFORMAT cannot accept responsibility for any errors or omissions or for any losses that

may arise as a result, but it is our policy to correct any errors of fact whenever we possibly can.

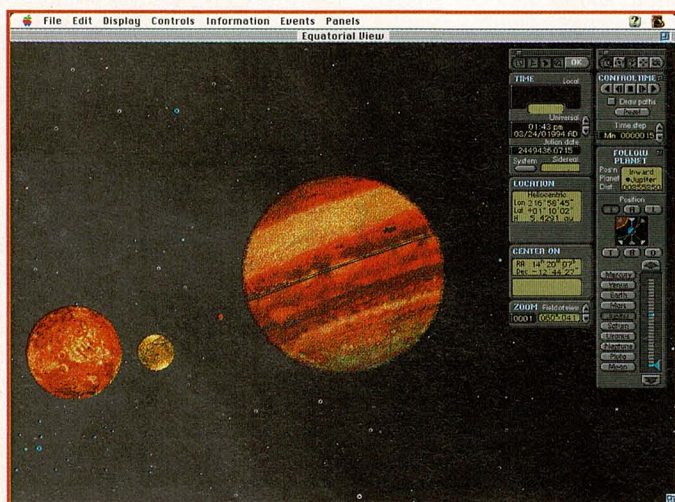
Copyright © 1997 Future Publishing Ltd. All rights reserved. No part of this publication may be reproduced in any form, copied or stored electronically without prior written permission from the publisher.



Complete! The world's leading multimedia astronomy program, originally sold for £79, yours free! Alex Summersby gets only slightly spaced out...

MACFORMAT BONUS CD

RedShift



Fly past the moons of Jupiter, view astronomical events at any time over a period of 15,000 years, zoom in on the surface of Mars, Earth or the moon and much more, using the comprehensive controls available to you in *RedShift*.

What is it? Complete MACFORMAT Classic Award winning multimedia astronomy program

Mac: 68030

PowerMac: any

Requires: System 7.0, 4Mb RAM, colour monitor, QuickTime 1.5 (v2.5 is included on the CD).

Many magazines may promise you the earth, but only MACFORMAT brings you the universe on a CD!

RedShift is the world's best-selling multimedia astronomy program, and the *complete* version 1.2 is yours on this issue's cosmic bonus Cover CD, courtesy of MACFORMAT and Maris Multimedia.

With *RedShift* you can explore the solar system and beyond – view full-screen photos of galaxies and nebulae, simulate astronomical events at any time over a period of

15,000 years, fly through the rings of Saturn and explore the surface of Mars, the moon or the Earth, as well as much more.

The program boasts an advanced virtual reality engine that creates breathtakingly realistic 3D models of the planets and animates them on a time-scale you can adjust – so you can watch Jupiter rotate majestically on your screen or experience a dizzying comet-ride through the asteroid belt, as you choose. You can view the heavens from any planet surface or other point in the solar system, and at any time.

Detailed surface maps of the Earth, Mars and the moon are also included, so you can take a really close look at the particular areas you're interested in, and even re-enact the astronauts' explorations of the lunar surface.

But that's not all – not by a light

Getting started with RedShift

RedShift will run straight from the CD-ROM, and you can launch it by simply double-clicking on the **RedShift** icon. However, here are a couple of points to note:

- For greater speed, you can drag *RedShift* (and the sample settings files, if you want to use them – see below) to your hard disk. However, you should still have the CD inserted so that the program can access its data.

- RedShift* requires QuickTime 1.5 or later. If you don't have QuickTime installed in your Mac, the latest version, 2.5, is included on the CD in a folder we've helpfully named **Drop contents on System Folder** – just open the folder and drag QuickTime 2.5 over your closed System Folder. (If you have a Power-

Mac, do the same with QuickTime PowerPlug as well.) Your Mac will put it in the right place for you – then all you need to do is restart.

- RedShift* will automatically run in native mode on Power Macs. If you don't have a PowerMac and you're short of disk space, there is a 68K-only version on the CD which is identical but slightly smaller because it does not include PowerMac-native-mode code. You can copy this to your hard disk instead – you'll find it in the **RedShift for 68K Macs** folder on the CD.

- If you do have a PowerMac but you're still short of disk space, there's also a PowerMac-only version which takes up less hard disk space because it doesn't include 68K code.

It's in the **RedShift for PowerMacs** folder.

- To help you familiarise yourself with what the program can do, there's a self-running demo in the **Mac demonstration** folder. Just double-click on the icon to run it (68K Mac or PowerMac, though it doesn't run PPC-native).

- To give you a shortcut straight into one of the most visual parts of the program, Maris has included five sample settings files on the CD – "Focus on Phobos", "Earth and moon", and three others. If you have a PowerMac, you can just double-click on these to use them; if you have a 68K Mac, launch the program first, then go to the **File** menu and use the **Open Settings** command. (For more details, see the section headed "Straight into orbit" above.)



year. There's also a gallery of more than 700 dazzling photographs of planets, moons, galaxies and stellar phenomena, plus amazing QuickTime movie clips.

On top of all that, there's even the complete Penguin Dictionary of Astronomy on-line, offering you 2,000 informative entries, some containing even more photos and animations. And to help you get around, entries are hyperlinked to other entries and to the photo gallery, so you can always get more information or just browse among the wealth of resources in this remarkable program.

Straight into orbit

It's easy to get started with *RedShift* – you can just double-click on its icon and you're away. Or you can start with one of the 20 virtual reality "guided tours". The program is very powerful, so there are lots of control and settings palettes at your disposal should you want them – run the preview video in the **Mac demonstration** folder on the CD to get a brief overview of the huge range of capabilities the program offers you. (Some of the highlights are illustrated on this page.)



To give you a short-cut to one of the most visual and exciting parts of the program, Maris Multimedia has included five sample settings files

on the CD – "Focus on Phobos", "Focus on Mimas", "Earth and moon", "Saturn with big moons" and "Jupiter with big moons". If you're using a PowerMac, you can run *RedShift* with one of these settings by simply double-clicking on the one you like – you can then change your viewing angle, zoom in, or make other adjustments using the easy-to-use controls. (You can show or hide more control palettes using the **Panels** menu in the menu bar; most of them require no more than a mouse-click to make changes.)

Note though that these settings files launch the PowerMac version of *RedShift* by default. If you are using a non-PowerMac, you'll need to launch the *RedShift.68K* application first and then go to the **File** menu and use the **Open Settings** command to open the settings files.

The settings files set up *RedShift* to display a particular astronomic sequence. In each case a control panel labelled **Control Time** is displayed on the screen. This control panel includes a set of VCR-style buttons which enable you to start and stop the passing of time. Click on the right-pointing arrow to start the sequence.

Note that in some of the demonstration files the sizes of planetary moons have been exaggerated for a more dramatic effect. If you'd prefer more accurate renditions, you can have them – it's all entirely



There are over 700 stunning photographs in *RedShift*'s photo gallery, bringing the breathtaking grandeur of the universe right to your screen.

controllable by the user – and of course you can move from these views to any other part of the program. There's 250,000 stars to see, with full data on 5,000 asteroids, almost 100 comets, 40,000 deep sky objects, and so much more!

The best way to discover exactly how much *RedShift* is capable of, really, is just to plunge right in and explore it – it's actually very intuitive to use. If you have a modem and an Internet connection you can find up-to-date technical help with *RedShift* on Maris Multimedia's World Wide Web pages at <http://www.maris.com>.

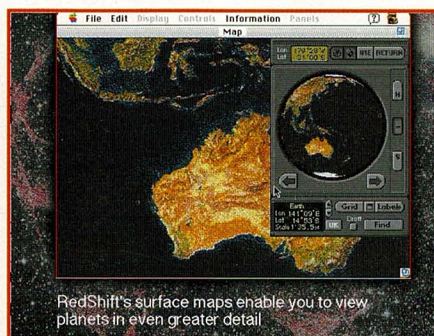
Save £38!

Has *RedShift* whetted your appetite for astronomy on your Mac? Want to get hold of *RedShift 2* (also a MACFORMAT Classic Award winner!) or other superb astronomy titles from Maris Multimedia? We've arranged some really special prices, exclusive to MACFORMAT readers, on *RedShift 2*, *Solar System Explorer* and *Discover Astronomy* – you could save up to £38! Turn to page 141 now!



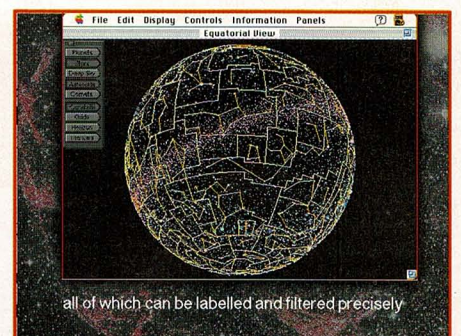
A time controller lets you see a planet rotate – or track its orbit as it travels through space.

The self-running demo gives you an easy introduction to *RedShift* and its capabilities, and demonstrates how easy the controls are to use.



RedShift's surface maps enable you to view planets in even greater detail.

Detailed surface maps of the Earth, the moon and Mars are included, so you can zoom right in. Look! Isn't that my Mum's house down there?



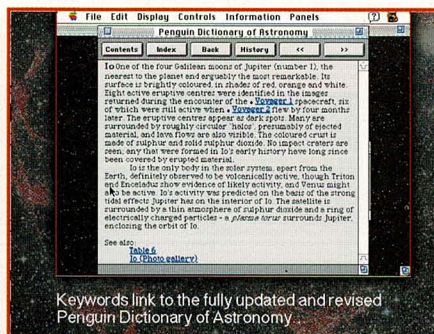
all of which can be labelled and filtered precisely.

Or you can view 250,000 stars from any point in the solar system, display constellations, deep sky objects and much more, in any combination.



Information about any object is accessible simply by clicking on it.

You can zoom in on any object in the skies up to a magnification of 10,000 times, and access information on anything simply by clicking on it.



Keywords link to the fully updated and revised Penguin Dictionary of Astronomy.

Hyperlinks (indicated by text in blue) make it easy to jump straight to related information – in the Penguin Dictionary of Astronomy, for instance...



and you can also link to *RedShift*'s Photo Gallery, containing over 700 images.

And from there directly to the gorgeous picture gallery, or the QuickTime movie library... *RedShift* quite literally gives you the universe on a CD!



Fighter plane flight sim demo ■ RPG gangland demo ■ Spreadsheet 2000 ■
Broken Sword preview ■ Photoshop plug-ins ■ Disc Editor: Brian Smith

MACFORMAT COVER CD

F/A-18 Hornet 3

What is it? One-mission demo

Where you'll find it: Demos folder

Mac: PowerMac only

PowerMac: any

Requires: 6Mb RAM, 12Mb hard disk space; joystick recommended.

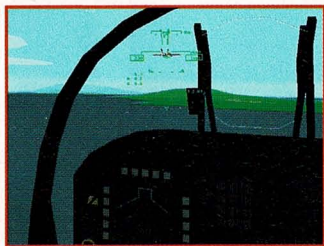
This playable demo from Softline is the closest you'll get to flying a real F/A-18 Hornet without joining the US airforce. The demo gives you access to the training mission, which is a sight-seeing tour that gives you the chance to master the Hornet's controls.

You begin the demo on the ground sitting in the cockpit of your Hornet fighter plane. By clicking on the notebook tabs or using the computer display in front of you, you can alter the game's settings, watch replays of previous flights or start a mission. The flight training room has been disabled, so it's a good idea to watch the

example replays which contain valuable tips. They cover the basics of flying a fighter plane such as take-off and landing, navigation and combat.

You can either access specific replays using the **Replay** notebook tab or, if you leave the demo idle for 30 seconds or so, it automatically starts playing them in random order.

Click on the **Mission** button on



F/A-18 Hornet 3 features a virtual cockpit, so you can search the sky for bogies (ugh!).



Left: The initial interface is a series of rooms or areas, the first of which is the cockpit of your F/A-18 Hornet.

Right: Because there's no tutorial section, it's a good idea to watch all the video replays of flying tips.



the left side of the computer display to choose your mission (only the training mission is available in the demo), and then select **Preflight** to select your weaponry load. When you are satisfied with your preflight selections, click on the **Fly** button and you'll be placed on the runway, ready to take off. There is a step-by-step guide to flying the training mission in the *F/A-18 Hornet 3.0 Demo Docs*, suitable for even the greenest rookie. It lists a full set of controls, three pages of them in fact, so it's worth printing out a copy for reference if you can.

You can set up the keyboard, mouse or joystick to fly the aircraft,

although we recommend a joystick. As well as the standard flight and weapons controls, you have the option to look around the virtual cockpit, which is great for locating enemy aircraft.

As this is a demo, network play is disabled, there is no training classroom and you can't save replays, but watch out for our in-depth review of the complete *F/A-18 Hornet 3* next issue.

To install

Double-click on the installer *F/A-18 Hornet 3* and follow the on-screen instructions. Chocks away!

Getting started

Welcome to the MACFORMAT 52 Cover CD. Here are some tips:

■ Some of the demos on the Cover CD require installation on your hard disk – they won't run direct from the CD. Many of these programs use an installer: once you've double-clicked on it, just follow the on-screen instructions and you should be fine. Even if

there's no installer, it often helps to copy demos to your hard disk – at the very least they should run faster than from the CD!

■ The icons we use on the CD folders help to give it a friendly atmosphere, but they do slow it down. Install *CDIconKiller*, which is in the **Resources** folder on the CD, to speed things up.

■ If you have problems quitting any of the rolling demos on the CD, just press **[command] Q** and you should go back to the Finder. If this doesn't work, hit **[command] [option] [escape]** to Force Quit.

■ It couldn't be easier to install System Extensions and Control Panels – just drag them over your

closed System Folder and your Mac puts them in the right place. Then you simply need to **Restart**.

■ Look for this icon throughout the issue – it will point you towards the CD contents that are connected with the feature or review you're reading.





Fallout

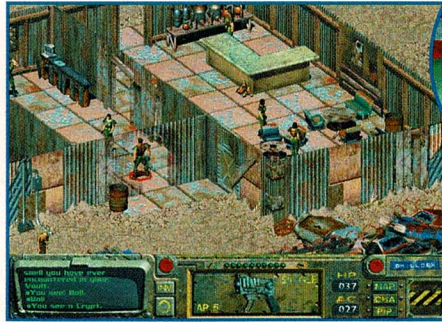
What is it? Playable demo
Where you'll find it: Demos folder
Mac: PowerMac only
PowerMac: any
Requires: System 7.1.2, 16Mb RAM, 256 colours

Fallout is an RPG that places you in a post-apocalyptic wasteland with only your wits and a semi-automatic gun to protect you. Back when role-playing games were paper and pencil affairs, you needed a Dungeon Master to manage your game, loads of dice to handle the maths and a vivid imagination. Computers have changed all that. They provide the perfect medium for RPGs – they can dress up all the tedious maths and statistics in lovely graphics and sound effects.

The *Fallout* demo begins with you standing outside the entrance to Scrapyard, a town built from the rusting remains of the past civilisation.



Try the character creation system, but you can only play Max Stone.



Max pops over to the Crypt's place to borrow a cup of sugar. Turn to page 23 for a preview of *Fallout*.

Exploring the town reveals that it's run by two groups of thugs called the Crypts and the Fools. It's wise to join one of the gangs as the leaders of both own lethal mini-guns that they take great joy in showing you at the least provocation. After some hard talking, they'll ask you to carry out a small errand to show your loyalty...

The full game has a character creation system, which you can try out in this demo, but you have to play Max Stone, one of the three predefined characters. He has low intelligence but is very strong and has high endurance, though he's not much use against a machine-gun-carrying thug.

The interface you use to control Max is mostly point-and-click. You can move, examine objects and talk to characters, and fight using the pointer, according to what mode it's in – either move, manipulate or target. To switch between the different modes, just [option]-click in the main display area, and moving your pointer to the edge of the screen scrolls the main view. A

control bar at the bottom of the screen enables you to get at your inventory and other useful stuff. See the **ReadMe** file for more info.

To install

You can run *Fallout* directly from the CD. You'll need to copy some Extensions to your **System Folder**, which are in the **Needed System Files** folder. Drag the Extensions relevant to the System version you are running to your System Folder, click **OK** when asked if they should be placed in the Extensions folder, and then restart your Mac.



Try talking first and if that doesn't work, pull a gun...

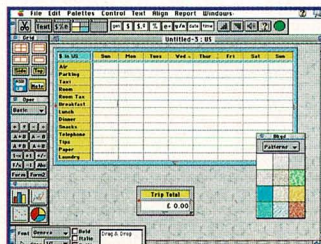
Spreadsheet 2000

What is it? Save-disabled demo
Where you'll find it: Demos folder
Mac: 68030 processor
PowerMac: any
Requires: 8Mb RAM, 5Mb of hard disk space, System 7.0, 256 colours

Spreadsheet 2000 is Casady and Greene's follow-up title to *Let's Keep It Simple Spreadsheet*, AKA *Let's KISS*. (It's not surprising they decided to ditch a name like that.) *Spreadsheet 2000* enables you to handle calculations in an object-orientated, visual way. It's a more intuitive method than entering reams of numbers and formulas as you do with a standard spreadsheet. This demo is save-disabled, print water-marked and has less on-line help and sample forms than the complete version. See our review of *Spreadsheet 2000* on page 74 and discover how to set up a simple timesheet.

This demo provides you with

predefined forms for some basic calculations, and these cover tracking expenditure, generating invoices and calculating sports statistics among other things. Of course, you can also create your own forms from scratch or modify the existing ones to do whatever you want. The best way to learn about *Spreadsheet 2000*'s features is to open some of its sample forms and turn on help balloons using the question mark icon in the main

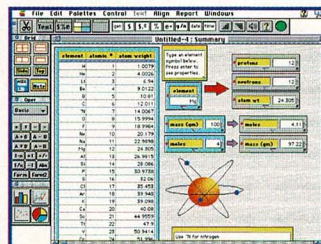


The demo comes with a number of sample forms for you to look at.

toolbar. When you open a sample form, it gives a description of what the form calculates and a step-by-step guide to filling it out.

To install

Simply double-click on the relevant installer for your model of Mac, either **Spreadsheet 2000™ 68K Demo** or **Spreadsheet 2000™ PPC Demo**, and then follow the on-screen prompts.



You can use *Spreadsheet 2000* for more than just accounting.

CD index

If you're looking for a particular program, here's the best place to try...

Demos

Broken Sword preview ■ Extensis Plug-ins ■ F/A-18 Hornet 3 ■ Fallout, preview p22 ■ Family Organiser, review p80 ■ InfoGenie 2, review p82 ■ Spreadsheet 2000, review p74 ■ Virtual Pool, review p105

How-To's

We have demos of *Color It!* 3.2 and *FileMaker Pro*, so you can follow our step-by-step guides on pages 50 and 54, respectively.

Jonni Starr Episode 7

Our intrepid hero struggles on in his intergalactic adventure.

MacAnswers

The following utilities tie in with MacAnswers on page 56:
 Speed Doubler 1.3.2 Updater ■
 Speed Doubler 2.0.3 Update ■ Tech-Tool™ v1.1.3 ■

MacFormat Floppy

8-Ball Emulator 8 ■ ClipAppend ■ ClipDragon FAT 1.0 ■ CornerClock 1.6 ■ Grid Warrior 1.2 ■ Mine-Sweeper Pro 1.0 ■ Spy 2.51 ■ Squeaky Toy ■ TileSwitcher 1.2

Readers' Corner

More excellent submissions of art, icons and programs from our reader.

Resources

Acrobat Reader 3.0 ■ CDIconKiller 1.4 ■ CFM-68K 4.0 ■ Disinfectant 3.6 ■ DOCMaker SW 4.7.1 ■ Drop-Stuff w/EE 4.0 ■ GraphicConverter ■ MacFormat CD Index ■ News-Watcher 2.1.6 ■ QuickTime 2.5 ■ ResEdit 2.1.3 ■ ShrinkWrap 2.1 ■ SoftwareFPU 3.0.4 ■ Sound Manager 3.2 ■ StuffIt Expander 4.0.1 ■ System 7.5 Update 2.0 ■ System 7.5.5 Update

Shareware Central

The pick of this month's new shareware is here. See the reviews starting on page 110.
 BOOM! ■ ColorSwitch Pro ■ Font Image Library FAT ■ MetaPong ■ MindOut! ■ MutantDungeonVR ■ Sloop 1.0 ■ The Ambrosia Times 4.2

Shareware Plus

The latest shareware from the Internet, hand sorted into bite-sized categories. Yum.



BOOM! – blow your friends away.



Extensis demos

What is it? Plug-ins for *Photoshop*, *QuarkXPress*, *FreeHand* and *PageMaker*

Where you'll find it: Extensis folder in the Demos folder

Mac: see below

PowerMac: see below

Requires: see below

Plug-ins can enhance a program immeasurably. There are large selections of plug-ins available for virtually every creative program you can think of, both commercial and shareware. Kai Krause has built up the company MetaTools selling *Photoshop* plug-ins, for example. We are planning a round-up feature about plug-ins in a future issue, so keep your eyes peeled.

In the meantime, we have demos of Extensis' plug-in collection for you to try. The plug-ins have varying System requirements, so read the respective documentation before trying to install them. The **Extensis Demos** folder also has demos of *Extensis Fetch*, which can organise an on-line library of work, and *PhotoDisc Sampler Pro*, a collection of sample images from the *PhotoDisc* range of library images, covering objects, signatures, volumes and backgrounds.

For more information about Extensis products and how to register, see the files **PhotoDisc Catalog** and **Extensis Order Form.pdf** in the **Extensis** folder.

PhotoTools

Requires: 68040 at 25MHz or PowerMac, System 7.1.1, *Photoshop* 3.0.4

PhotoTools is a collection of eight *Photoshop* plug-ins. They will work for 30 days, after which you have to upgrade to the full product to continue using them.

After installation, a new floating palette called **PhotoTools Commands** should have been added to *Photoshop*, which you can use to

access all the new plug-ins. There will also be a new menu called **PhotoTools**, which is listed in the **Filters** menu. The plug-ins are:

■ **PhotoShadow** – create graduated drop shadows in one easy step.

■ **PhotoBevel** – add double, sloping, rounded or flat bevels to selections of images or text.

■ **PhotoGlow** – creates glow effects around any selected areas.

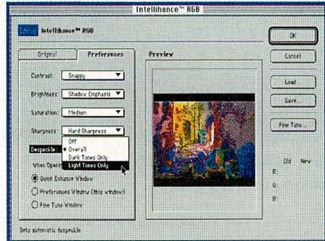
■ **PhotoEmboss** – adds emboss, cutout or relief effects to an image.

■ **PhotoText** – gives *Photoshop* WYSIWYG (what you see is what you get) text editing capabilities.

■ **PhotoBars** – adds configurable toolbars. It includes **SmartBar**, which can automatically build toolbars by recording your actions as you work.

■ **IntelliHance Lite** – automatically colour-corrects images with one mouse click. Its settings are fully customisable.

■ **PhotoTips** – offers helpful *Photoshop* tips and shortcuts every time you launch the application. You can also search the tips using keywords.



IntelliHance can automatically colour correct images.

IntelliHance

Requires: 68030 at 25MHz or PowerMac, System 7.1, *Photoshop* 2.5.1

The full version of *IntelliHance* gives you more control over colour correction than the *Lite* version that's installed as part of *PhotoTools*. *IntelliHance* can be used up to five times each time *Photoshop* is launched, for a maximum of 30 times.

PageTools

Requires: 68020 or PowerMac, System 7.1.1, *PageMaker* 5.0

Adds 18 plug-ins to *PageMaker* 5 and 6. The expanded features include a user-definable toolbar, which can either float or be locked to the side of the screen, enable you to draw your own crop and registration marks, and give you a selection of *PageMaker* tips.

QX-Tools

Requires: 68020 or PowerMac, System 7.1.1, *QuarkXPress* 3.31

A group of 15 XTensions for *QuarkXPress* that add:

■ **QX-Bars**

Adds user-definable toolbars to *Quark*. **SmartBar** can even automatically build toolbars.

■ **QX-Styles**

Enables you to apply different styles to elements within one paragraph.

■ **QX-Layers**

More precise layer controls.

■ **QX-Scaler**

Enables you to apply scaling to groups of objects at one time.

■ **QX-Tips & Tricks**

Offers you helpful tips whenever you launch or close *Quark*.

■ **QX-Manager**

Lets you set up predefined groups of *Quark* XTensions that can be loaded with one mouse click.

■ **QX-Viewer**

Displays a floating palette of the current layout, so you can quickly navigate around it.

■ **QX-Filters**

Now you can use *Photoshop* filters directly in *Quark*.

■ **QX-Dingbats**

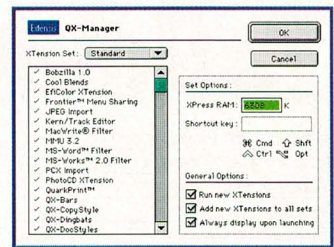
Displays all the characters in a font in a scrolling window; it's perfect for locating that special dingbat.

■ **QX-Print**

Prints non-consecutive pages and outputs spot colours as process.

■ **QX-FineTune**

Makes it easier to fine-tune the



QX-Manager enables you to create "sets" of *QuarkXPress* plug-ins.

position and appearance of elements such as text and graphics.

■ **QX-CopyStyle**

Copies selected attributes from one object to another.

■ **QX-FindChange**

Search and replace functions for nearly every sort of object in *Quark*.

■ **QX-DocStyles**

Helps you choose print settings.

■ **QX-Effects**

Adds a set of type effects – bevel, emboss, glow and shadow – all accessible from one floating palette.

DrawTools

Requires: 68020 or PowerMac, System 7.1, *Illustrator* 5.5 or *FreeHand* 5.0

A collection of 17 plug-ins for *Illustrator* and *FreeHand* that provide better colour manipulation controls, duotone creation, expanded shape editing functions and the ability to wrap images around 3D forms.

CyberPress

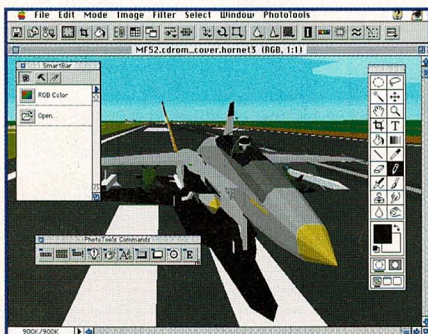
Requires: 68020 or PowerMac, System 7.1.1, *QuarkXPress* 3.31

This demo simplifies converting *QuarkXPress* documents into Web pages. It works for 30 days and tags all exported items with "Demo".

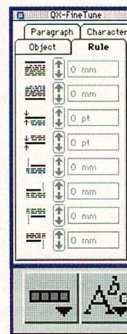
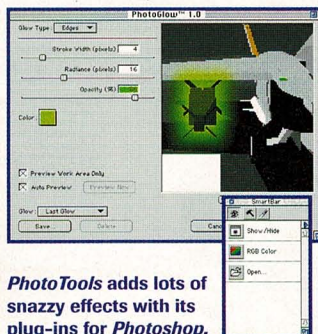
Extensis Fetch

Requires: 68020 or PowerMac, System 7.5

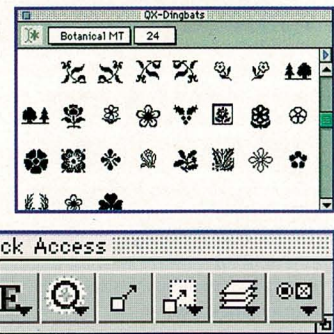
This standalone program can turn a collection of work into an on-line, browsable library, and is intended for use by individuals or work groups. The images can then be viewed, played, printed or loaded into applications for editing.



PhotoTools adds lots of snazzy effects with its plug-ins for *Photoshop*.



QX-Tools is a collection of 15 plug-ins that enhance *Quark's* built-in functions.





Broken Sword: The Shadow of the Templars preview

What is it? Preview movie

Where you'll find it: Demos folder

Mac: PowerMac only

PowerMac: any

Requires: 1Mb RAM, 256 colours

Broken Sword is a graphic adventure game that places you in the role of George Stobbart, a tourist who is unwittingly drawn into a conspiracy after witnessing a bombing in a Parisian cafe. Via a point-and-click interface, you have to

guide George in his adventure, solving puzzles and interacting with characters.

The gravelly-voiced narrator in our exclusive preview introduces you to the main characters and shows some of the beautifully animated sequences from the game.

Watch out for our review of the full game next issue. There will also be a playable demo of the first section of the game

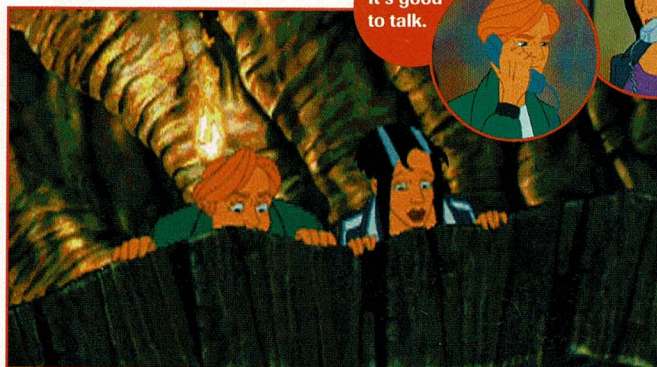
on next month's Cover CD, so reserve your copy now!

To install

The preview can be run directly from the CD. Double-click on **Broken Sword 256-colour Preview** and, when the Open dialogue box is displayed, select **Play**. You must set your monitor to display 256 colours using the **Monitors Control Panel** before viewing the preview.



The assassin blends in seamlessly with his surroundings.



It's good to talk.



Don't look so grumpy, there will be a full review of *Broken Sword* next issue.

Oh look, you can see my house from here!

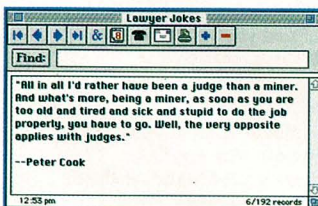
Exclusive preview!



Also on the CD...

■ InfoGenie 2

A demo of the latest version of Casady and Greene's easy-to-use database. This evaluation demo



Keep all your important data in order with **InfoGenie 2**.

supplied by Softline is limited to 30 records per datafile, but otherwise it's fully functional. For more information, see our review on page 82 of this issue.

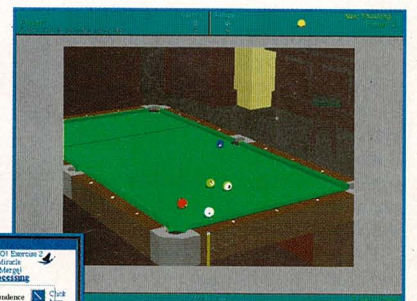
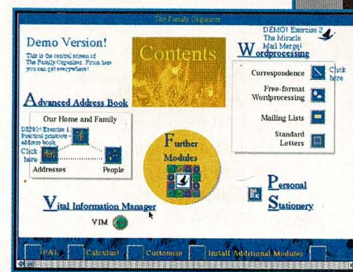
■ Family Organiser

Family Organiser is a management program for the whole family. It incorporates a diary, word processor with personalised stationery, an information manager and more. Find out how our reviewer rated it on page 80.

■ Virtual Pool

Challenge a friend to a game of pool with our four-ball, two-player

demo of MacPlay's new VR pool sim, and then turn to page 105 for our review of the full game.



Above: Now you can practise trick shots without leaving your Mac.

Left: If your family is disorganised then here's the ideal package to sort them out.

Got a problem?

Before installing the software from our Cover CD or Floppy Disk, we recommend you always back up any important work on your hard disk. This precaution will avoid problems if it turns out that a program isn't compatible with your particular Mac set-up.

We make every effort to check our Cover Disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any resulting losses. So please, do make sure you back up first.

If your CD-ROM or disk is defective, return it to us via one of the addresses on the right and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will give you exactly the same problem!

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold any stocks of them and can only

refer you to the appropriate address below.

Return faulty CD-ROMs to:

MACFORMAT CD returns
PC Wise Ltd, Dowlais Top Business Park,
Dowlais, Merthyr Tydfil,
Mid Glamorgan,
South Wales C48 2YY.

Return faulty HD disks to:

TIB plc, TIB House,
11 Edward Street,
Bradford BD4 7BH.



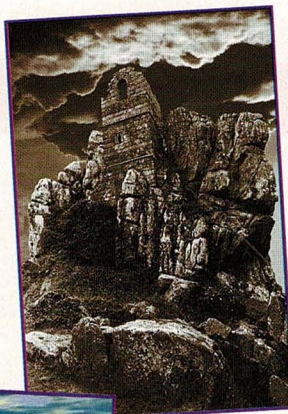
Readers' corner

This month some great artwork has been sent in by Wojciech Blasiak, who, long-time readers of MACFORMAT may remember, had some of his work featured on our September 96 Cover CD.

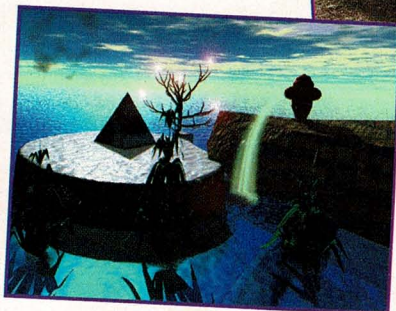
There are also images, Desktop patterns and icons

by Gianni Abner, Martyn Band and many others.

The Contributions folder contains more *Wolfenstein* levels from Alan Boyd, and a compilation of all three versions of *Beebop*, the shareware *Breakout* clone with extras from Daniel Clav. Excellent stuff!



Above: illustration by Martyn Band



Left: illustration by Gianni Abner



Left/above: illustrations by Wojciech Blasiak

We want your pics!

If you've created some work, such as artwork, e-zines, icons, Desktop patterns, programs or sounds, that you'd like us to include on the MACFORMAT Cover CD, then send it in to: Brian Smith, Disk Editor, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

Our preferred formats for submissions are floppy disk, CD or 44Mb/88Mb SyQuest carts. Or, if your submission is smaller than 1Mb, you can e-mail it to us as an enclosure at: macformat@futurenet.co.uk

Unfortunately, we are unable to return floppies; enclose an SAE for the return of SyQuests or Zip disks. Please do not include letters for other sections of the magazine as this is likely to delay their reply.

On the floppy

It's a games-fest this month with three great games on the floppy. There's arcade action aplenty in *Grid Warrior*, as you race around blasting flying frogs and annoying gun emplacements. *Mine Sweeper Pro* is a conversion of that classic Windows game where you have to clear a minefield using logical deduction. Finally, if you are a budding pool hustler, there's *8-Ball Emulator 8*.

For more serious use, you'll find *ClipDragon*, a shareware utility that adds power to the clippings format used by System 7.5. If you have the CD version of MACFORMAT, fear not, the contents of the floppy are in the MACFORMAT 52 Floppy folder.

Grid Warrior 1.2

What is it? Shareware game

Mac: 68040

PowerMac: any

Requires: 5Mb RAM, 256 colours

Grid Warrior revives those early days of classic arcade gaming as you race around a single screen level, avoiding baddies while trying, at the same time, to blast them into oblivion. Good, clean fun.

Use the mouse to steer your tank and the keyboard to fire your lasers as you speed around the grid. As you move through the levels you'll be confronted by flying frogs, robotic snipers and gun emplacements that will try their best to blow you off the grid. The demo enables you to try the first five



Can you evade the frogs of doom?

levels of the game. If you use *After Dark 3.0*, you might have problems while *Grid Warrior* is running.

This is a fast arcade game that will give you hours of fun, forgetting the occasional graphical glitches. Blast that frog!

MineSweeper Pro 1.0

What is it? Shareware game

Mac: any

PowerMac: any

Requires: System 7.0, 256 colours

Say what you like about Windows 95 but it does have a damn good game built into it, and *MineSweeper Pro* is a surprisingly addictive conversion of it. Your aim is to clear a minefield using a process of elimination and a little luck. Click on a square in the minefield and you'll either be rewarded with a number showing how many adjacent squares contain mines or a big explosion, in which case it's game over time! There's strategy involved

but it also gets your adrenaline pumping, a very rare mix.

In this version of *MineSweeper*, you can define everything about your playing environment. The minefield can be up to 10,000 squares in size and you can play on a range of different levels from novice to expert.

ClipDragon FAT 1.0

What is it? Shareware utility

Mac: 68020

PowerMac: any

Requires: System 7.5

System 7.5 introduced a new format for information – the clipping. It's a halfway house for drag-and-drop technology, which enables you to drag text, images and sounds onto the Desktop for later use. You can double-click on a clipping to

view it in its own scrollable window or drag the clipping directly into another application to copy it.

ClipDragon adds an extra form of clipping, the icon clipping, which can have added text or graphic comments. It's ideal for shareware icon designers. It also enables you to customise the style of window and fonts used to display clippings, so you can make them even more versatile. Even *ClipDragon's* manual is supplied as a graphic clipping!

Plus

■ 8-Ball Emulator 8

A bizarre pool emulator. Customise the table as much as you want.

■ ClipAppend

Tack text onto the beginning or end of text you've already copied.

■ CornerClock 1.6

The most compact clock ever!

■ Spy 2.51 US

Find out what your Mac is up to.

■ Squeaky Toy

Annoy your friends to death.

■ TileSwitcher 1.2

Switch between applications with great speed.

How to use your disk

High density floppy disks normally contain up to 1.4Mb of software, but so that we can bring you as many useful programs as possible, we use a compression utility to fit more on. This means you need to decompress the software before using our disk; this issue you'll need 2.8Mb of hard disk space.

We also recommend that you always make a back-up of the MACFORMAT Cover Disk, just in case anything goes wrong.

To decompress the Cover Disk contents, open the MacFormat 52 folder on your hard disk and double-click on the MacFormat 52 icon. You'll see a screen telling you about the compression utility we've used. Click **Continue** when you're ready.

A dialogue box prompts you to decide where to save the software. Choose the place on your hard disk where you want everything stored, and click **Save** to get hold of this issue's programs.

TILLBROOK

Global Suppliers to the Computer World

AMAZINGLY LOW PRICES!

Hard Drives

SCSI

	Internal	External
700Mb	£89	£129
1.2Gig	£145	£185
2Gig	£189	£225
4Gig	£409	£449
9Gig	£799	£849
4.5Gig U SCSI 3	£529	/////
2.1Gig FW IBM	£239	/////

Cables and Software Incl In price

Storage Drives

230Mb Optical Drive	£249
640Mb Optical Drive	£329
2.6Gig Optical Drive	£895
88Mb SyQuest Drive	£149
200Mb SyQuest Drive	£299
Omega Zip Drive	£115
1Gig Jaz Drive	£295

Cables and Software Incl In price

Yamaha 4x6 Cd-Writer	£449
Yamaha 2x4 Cd-Writer	£249
Yamaha 4x6 Cd-Writer (Incl 2Gig Hard Drive)	£699

Including Toast and Cables

**FREE
5xCd's**

Media

Dat Tapes	90M	120M
	£4.95	£14.25
CD-R Disks	£3.99	

Dat Drive 4-16Gig	£529
Retrospect Remote	£89

Cables Included In price

Optical Disks

128Mb	£5.75
230Mb	£7.25
640Mb	£26.75
600/650Mb	£22.75
1.2/1.3Gig	£27.95
2.6Gig	£39.95

Genuine SyQuest Carts

44Mb	£24.95
88Mb	£27.95
200Mb	£39.95
Zip Disks	£9.65
Jaz Disks	£62.95

Memory

	Simm	Dimm
8Mb	£31	£31
16Mb	£59	£62.50
32Mb	£99	£119
64Mb	£Call	£Call

Lifetime Warrantee on ALL Memory

For More Information on ALL our Products and Services Call
24hr Hot Line: 0118 931 0531

Fax: 0118 975 1024

Same Day or Next Day Delivery

Trade Enquiries 0118 931 4399

**TILLBROOK LTD, First Base, Beacontree Plaza,
Gillette Way, Reading RG2 0BP**

All prices exclude VAT, delivery and are subject to change without notice. All sales are subject to Tillbrook Limited standard terms and conditions - A full copy is available on request. E&OE



Apple to unleash dramatic new Mac OS ■ Adobe and Quark will make programs for new OS
 ■ Mac sales boom predicted ■ The Apple takeover that never was ■ News Editor: Richard Hill

MACFORMAT NEWS

Mac OS 8 is most radical yet

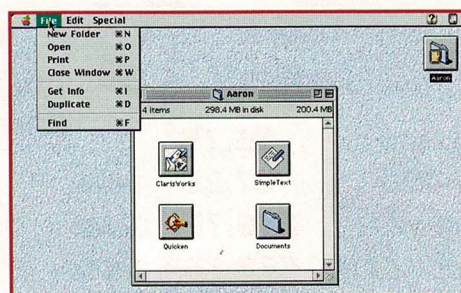
The new Mac operating system, currently set for release in July, will introduce a flurry of new features and an entirely new look for Mac software, according to early glimpses offered by Apple. The company's keeping details close to its chest in preparation for what is easily its biggest software launch of the year. Indeed, Apple Vice President of Technology Ellen Hancock is quoted as referring to Mac OS 8 as "our largest release since about 1984" – the year of the initial Mac launch.

Changes include a whole new look for your Mac Desktop and applications and, for PowerMac owners, a 5% speed increase over

the current Mac OS 7.6. Mac OS 8 will add many new features, including a multi-threaded Finder that is capable of performing more than one task at once, and new ways of manipulating folders and windows, to enhance the way your Mac works. See the box "Inside Mac OS 8" for the details that Apple has released so far.

The new OS will include the latest versions of core Mac technologies, including the QuickTime video system, the QuickDraw 3D graphics system and the Open Transport networking and Internet connection software. You'll also find software like the OpenDoc component system, which will continue as part of the Mac OS,

Many ideas first seen in this prototype version of Mac OS 8 have made their way into July's final version. Mac newcomers will be able to choose this large-icon view and use just one mouse click to open programs, for example.



despite Apple's decision not to use it in the future OS, Rhapsody (see News, MACFORMAT 50).

The UK version of Mac OS 8 should arrive on these shores in August or September, and Apple will charge you for the software, as it does for Mac OS 7.6, though it hasn't announced pricing yet.

Mac OS 8 will run on any PowerMac and on any Mac with a 68040 processor, such as the Quadra and the Performa 630. Mac OS 7.6 is the last version of the operating system to work on slower Macs with 68030 processors, such as the LCII. System 7.5.5 is the last version to run on older machines with 68020 processors.

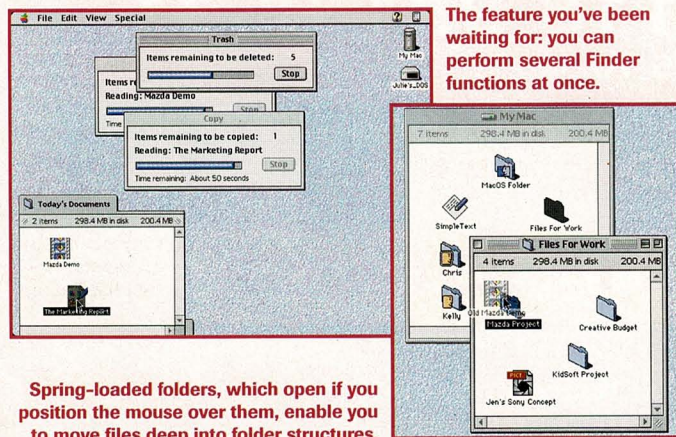
After 8

The Mac OS may yet undergo a more dramatic underlying transformation, according to Apple's Chief Executive Officer Gil Amelio.

He suggested recently that Apple may release a Mac OS based entirely on technology used in sister OS Rhapsody. This would lead to a huge speed boost for any of your existing software.

When it finally arrives, the full version of Rhapsody will include separate components to run software written for the Mac OS and for OpenStep, the OS Apple acquired when it bought NeXT Software last year. Once Rhapsody is finished, it would be perfectly possible for Apple to break away from the Mac OS component and sell it in its own right, in addition to its role as an integral part of the new Rhapsody OS.

The plan (which isn't definite yet, Amelio stressed) would fit in with Apple's vision of Rhapsody as the system for power users like businesses and media industries, with the Mac OS brand remaining a favourite in homes and schools.



The feature you've been waiting for: you can perform several Finder functions at once.

Spring-loaded folders, which open if you position the mouse over them, enable you to move files deep into folder structures.



First software for Rhapsody

Two of the Mac's most important supporters have confirmed they will be producing software for Rhapsody, the new operating system for PowerMacs due from Apple in 1998. Adobe and Quark Systems are among the first to commit to developing software for the new professional-level OS, based on technology from NeXT Software, the firm Apple bought last year.

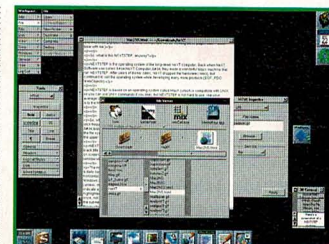
The honour of being the first specific Rhapsody application to be announced, though, belongs to *I-Publish* from Design Intelligence. The application will enable you to create sophisticated designs with

text and images, which you can then produce for print or for the Web. The firm has never produced a Mac program before, but said it was encouraged by Apple's planned merger of Mac and NeXT technology in Rhapsody. Expect to see *I-Publish* in 1998.

Rhapsody will be an advanced OS for the most powerful Macs, offering features like the ability to run several programs simultaneously. Rewritten versions of both the Mac OS and NeXT's OpenStep system will run your software, making differences between the two so minimal that you'll look at Rhapsody as a single system.

The two-system approach, though, will offer many advantages to Apple and software developers, improving your Mac's ability to help you work. The OpenStep segment, called Yellow Box, will also work on top of the Windows OS used by PCs. This means that anyone, whether they use a PowerMac or a PC, will be able to buy software written for Yellow Box and use it immediately. The audience for Yellow Box programs will be bigger than any other OS.

Apple is encouraging developers to start work on Rhapsody applications. It gave attendees at May's Worldwide Developer Conference



The existing OpenStep layer will act as the foundation for an ambitious multi-platform operating system.

in San Jose free tools worth \$10,000 (£6,170) to help them get software ready for Rhapsody's mid-1998 launch. Development tool firm Metrowerks is also producing a kit to help programmers convert existing software to OpenStep, ready to work on for Yellow Box.

Inside Mac OS 8

The entire Mac OS will sport a smart new look. Apple has been encouraging software developers to design their new releases in sympathy with the Mac OS 8 appearance. But Apple's changes to the operating system go far beyond cosmetics:

If you have a slower Mac, you may currently have to wait sometimes while your Mac redraws windows and updates the information within them. Mac OS 8 will perform functions like this in the background, freeing you to carry on with your work.

The new **Help** menu will spearhead several Apple initiatives to make the Mac even easier to use. If you're new to computing, for example, your Mac will take care of tasks like setting up your new printer or establishing your connection to the Internet.

List views in windows will use clearly divided rows and columns to make it easier for you to read the information.

One delightful touch will be the use in windows of the terms "Today" and "Yesterday" instead of the full date.

A rewritten Finder will enable you to carry out more than one Finder operation, such as opening windows and copying or deleting files, at once. No longer will you have to wait until your Mac has completed one task before carrying on with something else.

You'll be able to use a single large image as your Desktop background, as well as using the tiled effects which are your only choice at present. A later Mac OS could offer the animated backdrops that Apple has shown at trade shows, including a watery image which actually ripples when you click on it.

Mac OS 8 will offer hovering menus that you can call up after you've selected a particular item. The menu's options will depend on the type of object you've selected.

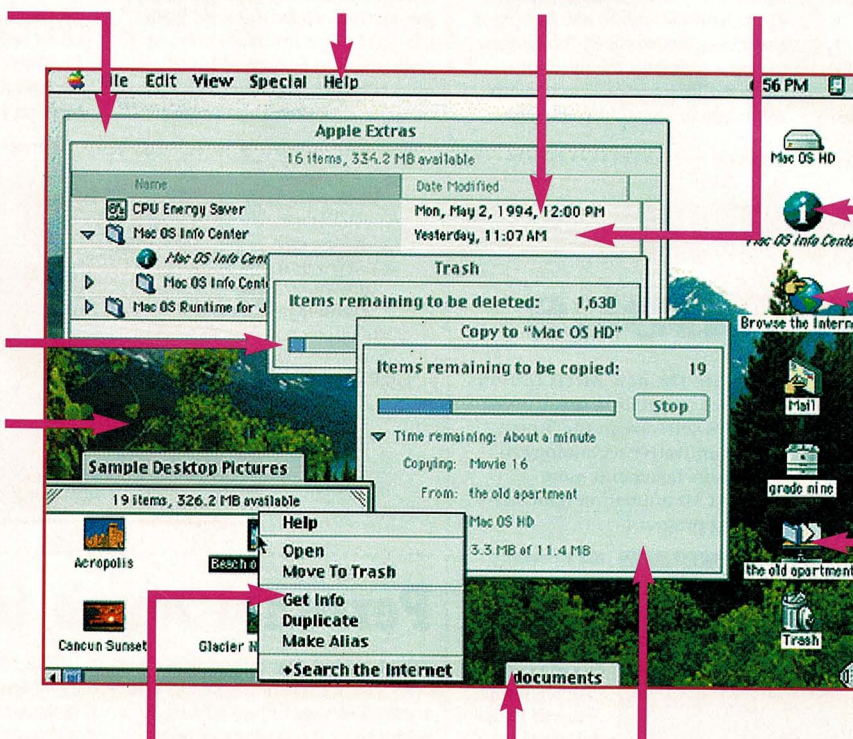
You'll be able to turn any window into a pop-up, which you can then place at the bottom of the screen, ready to open with a single click.

A new **Copy** dialogue box will give you more information about how your copying operation is progressing, with details including the number of megabytes still left to copy.

The **Mac OS Info Centre** will give you advice and information on the range of Mac technologies.

Mac OS 8 will include controls giving you direct access to your favourite e-mail and Web programs. You'll be able to choose which of your particular programs these icons activate.

If you use your Mac on a company network, you'll be familiar with the shared folder system which enables you to copy material between different Macs. Mac OS 8 will extend the metaphor to the Internet, enabling you to copy material to another computer (Mac or PC) over the Net.





Mac boom ahead

More people than ever will be buying either Macs or Mac-compatibles in 1997, according to research by respected firm Dataquest, with a particularly busy autumn period ahead. Dataquest believes that Mac owners who bought machines in large quan-

ties during the 1991 and 1992 period will choose to follow a five-year cycle for upgrading their machines, leading to a sales surge for Apple as well as Mac-compatible makers like Motorola and Power Computing.

Dataquest says the latest PowerMacs and Mac-compatibles available offer such good value that owners of old Macs will feel further encouraged to upgrade their technology.

Referring to Apple's recent financial troubles and its attempts at rebuilding the company, Dataquest analyst Scott Miller commented: "If Apple is able to sustain the relative momentum we are predicting for 1997 through to 1998, it will have turned the corner."



Mighty PowerMacs like the 9600 are sparking a surge in Mac sales.

Ellison pulls out of takeover bid

Larry Ellison has decided not to make the bid for Apple he had talked about in several interviews during the past few weeks (see News, MACFORMAT 51).

Ellison, also the Chief Executive Officer of database firm Oracle, had

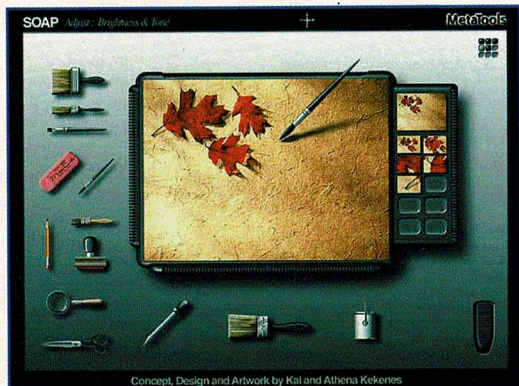
said he was considering forming a consortium to bid for Apple, sacking Apple head Gil Amelio and forming a new board if successful. The danger to Apple is past for the moment, although Ellison refused to rule out any takeover attempts in the future.

Introducing MetaCreations

MetaCreations is the new name for the merged MetaTools and Fractal Design graphics firms (see News, MACFORMAT 51). The combined company boasts a roster of top programs including Bryce, Kai's Power Tools, Painter and

Expression. The new MetaCreations promises an exciting range of 3D graphics software in the future, using innovative technology to offer users faster and more detailed 3D animation than any existing program.

Kai's Power Soap, a low-cost program to clean up your images, will be one of the first new programs released under the MetaCreations banner.



Faulty Jaz cartridges

Around 75,000 storage cartridges made recently by Iomega for its Jaz Drive are faulty, according to the manufacturer. The firm would like to hear from any customers with faulty cartridges so it can replace them.

The cartridges affected by the fault bear a two-line manufacture code, with a date (in United States format) between "03 13 97" and "04 20 97" as the first line and the letters "MS" at the end of the second line.



Iomega promises to replace your faulty Jaz cartridge.

If you have a cartridge fitting this description, you should not use it; if you call Iomega's hotline in Ireland on 00 353 1 807 5599, the company will arrange to replace your faulty cartridge free of charge.

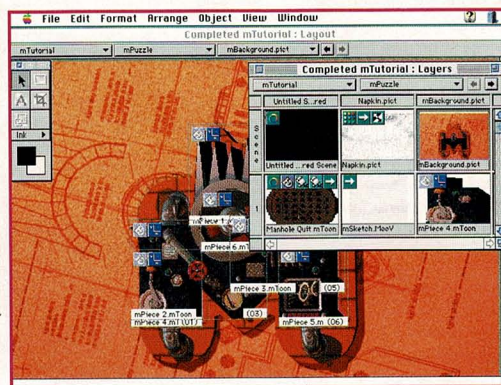
Quark buys multimedia creator

Quark, the maker of the top desktop publishing program QuarkXPress and its multimedia add-on Quarkimmedia, is to buy mFactory, the firm behind well-regarded multimedia authoring package mTropolis. The program enables you to create high-quality interactive productions for both CD-ROM and the Web, using a sophisticated system of intelligent objects which can react to each other within the program you

create. mTropolis users include games firm Activision and Peter Gabriel's company, Real World.

Quark plans to keep mTropolis and XPress as separate, complementary products, confident that its connections with professional publishers will raise mTropolis's profile dramatically. Quark is also set to release a new version of its flagship QuarkXPress, coming as soon as this summer. See What's New on page 22 for details.

Quark hopes its new purchase, the powerful mTropolis program, will appeal to new professional markets to complement its grip on the publishing field.



Personal touch from Hand

The newly-launched firm Hand Technologies intends to offer a different way to buy a Mac, in addition to the options of mail order, specialist dealers and High Street stores.

The firm is launching a service it calls One-to-One Direct, where Hand consultants visit your home to discuss your computing needs. Apple's Macintosh range will be one of the systems that Hand offers.

The company intends to have over 1,000 agents countrywide, who will maintain contact with customers after a sale. They will also offer Internet services to help you get the most out of on-line information. Hand has been formed out of a merger between MacFriendly and Habitech, two firms which offered very similar services on a smaller scale. Contact Hand Technologies on 0990 100595 for more details about the service.

Here Comes Summer LOOK AT THE NEWS...

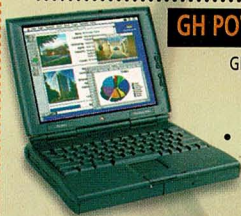
UMAX Astra 600



- Intelligent Scan Driver - Auto scan settings
- Accurate Colour Scans - Magic Match & Kodak Colour System
- Superior 30-Bit Quality - 300x600 Optical dpi (Maximum 4800dpi)
- Large Legal Size Scan Area - 215mm x 355mm
- Umax Copy Utility - Turn your scanner & printer into a copier
- Plug-and-Play Connections - Plug directly to your Macintosh

SCANNER **£169** WITH PHOTOSHOP LE **£189** WITH FULL PHOTOSHOP & TRANSPARENCY ADAPTOR **£468**

NEW! PHONE US FOR FULL DETAILS OF THE NEW LOWER COST POWERBOOK COLOUR STUDIO II RANGE!



GH POWERBOOK 1400s - Higher Specifications, Lower Prices!

GH is pleased to announce new PowerBook 1400 configurations to give you **HIGHER SPECIFICATIONS AT EVEN LOWER PRICES...**

- POWERBOOKS NOW COME WITH EVEN **FASTER CD-ROM DRIVES!**
- POWERBOOKS THAT HAD A 750Mb HARD DRIVE NOW COME WITH A **1.0Gb DRIVE!**
- POWERBOOKS THAT HAD A 1.0Gb HARD DRIVE NOW COME WITH A **1.3Gb DRIVE!**

CALL AND ASK GH TO QUOTE PRICES AND DELIVERY ON THE HIGHER SPEC POWERBOOK 1400s - WE THINK YOU'LL BE AMAZED AT THEIR PRICES!

NEW!

EPSON STYLUS Photo 6 COLOUR PRINTER



- Optimised Photo Quality Colour Reproduction
- Prints 4"x6" Format
- Enlargements to FULL A4
- Macintosh and Windows compatible
- LivePix Photo Editing Software included
- FREE Epson Bonus Paper Pack included
- UNIQUE SIX COLOUR PRINT PROCESS! (CMYK + Light Cyan and Light Magenta)



£Call DUE OUT END OF MAY 1997

MICRONET 2400e SIXTEEN SPEED CD-ROM

- Multisession Photo CD Ready
- Audio CD Player
- Includes CD-ROM Utility Software
- Includes QuickTime™ Movie Player
- Includes Audio Extraction Software
- Includes FIVE Great CDs... OCEANS BELOW
- SIM CITY 2000
- GROGLIER 1995 MULTIMEDIA
- WORLD ATLAS
- LODE RUNNER - The Legend Returns

GH SCOOP PURCHASE! £199 Just £1.65 Per Week



GH 15TH ANNIVERSARY
1982-1997

GH is a family business established in 1955. We've been providing systems since 1982 and now with over £50 million worth of units supplied, and a quarter of a million happy customers... Our Trading Record is Second to None!

We think we offer the BEST overall deal possible and... because we are appointed and authorised by Apple for our high standard in Hardware Maintenance and Care, YOU can rest assured you'll get the BEST service too!

GH offers you everything!

GH IS NOW HIRING STAFF...

So, if you have a good knowledge of Macintosh products and/or... a technical background with sales experience, please write in the first instance to Gordon Harwood Computers Limited at the address shown in this ad enclosing a current CV.

NEWTON MessagePad 2000

Including Word Processor, e-mail, WWW Browser & Spreadsheet software

SEE PAGE 3 OF THIS ADVERT OR CALL GH FOR FURTHER INFORMATION NOW!

With the brand new Apple MessagePad 2000 you can use those essential business applications even when you're away from the office. And, weighing in at under a pound and a half (0.64kg), the Newton MessagePad 2000 won't give you a hernia either! When you are on the move, you and your 2000 can stay in touch.

Simply slip a modem into one of its two PC Card Slots and you're ready to send and receive e-mail/faxes or connect to the Internet or an Intranet. You can even make those connections using your GSM Mobile Phone with the optional wireless data card.

In terms of speed, the new 2000 is up to **TEN TIMES FASTER** than any previous model and also has more memory. Its backlit screen is larger and now features 16 levels of grey at 100 dpi, there is an internal speaker, an internal microphone, software for connecting to both Mac and PC and a remarkable 24 HOURS OF CONTINUOUS BATTERY LIFE!

Information at your fingertips, wherever you are, is here now with options for Mobile Phone Connection, Modem, Keyboard and MORE!

Call GH...
THE Authorised Newton Centre!



ONLY... £629 Just £4.98 Per Week

SOFTWINDOWS '95 V4.0

SOFTWINDOWS '95 V4.0

One click puts a software PC running inside your Mac, another click and you can work on both Windows 95 and Mac side by side! Access PC files even on the Internet. **£279**



THE VERY BEST DEALS ON APPLE COLOUR STYLEWRITER PRINTERS!

THREE exceptional offers from GH!

OFFER 1...

Buy either a Performa 5400 or Performa 6400 and add one of two Apple colour inkjet printers for a fraction of their normal selling price... Choose either a StyleWriter 1500 Color or StyleWriter 2500 Color printer with your new Performa - pay as little as **£99!**



SW1500 SAVINGS!

OFFER 2...

Buy a StyleWriter 2500 (with or without a Performa) before 31st July 1997 and you'll receive a voucher for a **FREE...**

Apple Colour PhotoGrade Kit to produce high quality Photo Realistic Images - Worth £47!



SW2500 BARGAINS!

OFFER 3...
Call GH NOW, We Guarantee...

**WE WON'T BE BEATEN
ON THE PRICE**
of this great Printer and Photograde Offer!

Showroom GH

visit **THE BEST** Showroom in the UK

We have more products in stock than those listed in our advertisement (please phone and check about a particular item before making a long journey) and our staff are happy to offer impartial and friendly advice. Why not call in and see us, we're at the heart of the UK and only around an hour's drive away from Birmingham, Northampton or Manchester. And... even travelling from London doesn't take much longer!



If you want to see products for YOUR Apple System, there's no better place to visit than the great GH showroom. LOOK FORWARD TO SEEING YOU HERE.

WHY NOT COME AND SEE US...
WE'RE AT THE HEART OF THE UK, AN EASY DRIVE FROM MOST AREAS!



NEW APPLE MACINTOSH... 5500 and 6500 Models with FASTER CPU SPEEDS!

6500/250 OFFICE PACK

- 250MHz PowerPC 603e RISC CPU
- Level 2 Cache
- 32Mb RAM (expandable to 128Mb)
- 3Gb Internal Hard Drive
- Built-in Monitor Support (up to 21")
- SCSI Connector
- Surround Sound
- Built-in Speakers with Sub Woofer
- Internal 12 Speed CD ROM
- Built-in 33.6bps Modem...
- Fax, Answer Phone and Hands Free
- Apple Internet Connection Kit
- 2 - PCI Expansion Slots
- Built-in Accelerated Multimedia and 3D Graphics
- Home Office Software

6500/275 CREATIVE

- 275MHz PowerPC 603e RISC CPU
- Level 2 Cache
- 32Mb RAM (expandable to 128Mb)
- 4Gb Internal Hard Drive
- Built-in Monitor Support (up to 21")
- SCSI Connector
- Surround Sound
- Built-in Speakers with Sub Woofer
- Internal 12 Speed CD ROM
- Built-in 33.6bps Modem with Software for Fax, Answer Phone and Hands Free
- Apple Internet Connection Kit
- 2 - PCI Exp. Slots
- Built-in Accelerated Multimedia and 3D Graphics
- Built-in TV/FM Radio Tuner
- Video-In Card
- Video-Out Adaptor
- Avid Cinema Digital Video Editing System
- Creative Studio Software

SEE PAGE 2 FOR FULL DETAILS OF SOFTWARE INCLUDED IN 5500 AND 6500 PACKS

CALL AND ASK GH TO QUOTE PRICES AND DELIVERY ON THESE 'HOT OFF THE PRESS' NEW MACS (see Page 2)



5500/225 'BLACK MAC' FAMILY PACK

- 225MHz PPC 603e RISC CPU, Level2 Cache
- 32Mb RAM (expandable to 128Mb)
- 2Gb Internal Hard Drive
- Built-in 15" Colour Monitor
- Surround Sound
- Built-in Speakers
- SCSI Connector
- 12 Speed CD ROM
- Built-in 33.6bps Modem...
- Fax, Answer Phone and Hands Free
- Apple Internet Connection Kit
- 1 - PCI Expansion Slot
- Built-in Accelerated Multimedia and 3D Graphics
- Built-in TV/FM Radio Tuner
- Video-In Card
- Family Software Pack (see Page 2 for details)

NEW

Gordon Harwood computers

01773 836781

PICK UP THE PHONE AND ORDER TODAY FOR DELIVERY TOMORROW

CHECK OUT THIS

MONTH'S OFFERS

AND LATEST NEW

PRODUCTS HERE!

WE'RE EASY TO FIND, SO WHY NOT PAY A VISIT TO OUR SHOWROOM
Please check availability before making a long journey

We accept most major Credit and Debit Cards and there are NO SURCHARGES!



For your protection all Cards are fully Security Checked

OFFICIAL ORDERS...

We supply Central, Local Government and Education Departments along with Major PLCs

'FAST-FAX'...

on 01773 831040 for a Rapid Response to your Quotation or Order Requirements!

GH
GORDON HARWOOD
COMPUTERS

DEPT **MAF**/9 • NEW STREET

ALFRETON • DERBYSHIRE
DE55 7BP

Tel: 01773 836781

FAX: 01773 831040

e-mail: info@ghc.co.uk

This advertisement is an invitation to visit, not an offer to sell. Offers are subject to availability. Consumers please ask for VAT inclusive prices. All transactions are subject to Harwood's Terms and Conditions of Sale, a copy of which is available on request. E.C.D.L. Software Product packaging for bundled systems may not be included and is shown for illustration purposes only.



We've been building our reputation for the last 15 years... and our Apple accreditations support this.



Authorised Reseller

Authorised Service Provider

Commercial Credit Provider

Newton Centre

Authorised Higher and Further Education Alliance Reseller

KEENESEST PRICES

ASSURED SERVICE

ESTABLISHED 1982

APPLE APPOINTED

WARRANTY OPTIONS

SPEEDY DELIVERIES

FRIENDLY STAFF

CENTRAL TO UK

FINANCE OPTIONS

GH PERSONAL FINANCE + INCLUDING AN OPTION WITH NOTHING TO PAY UNTIL WINTER!

PERSONAL FINANCE - DEFERRED PAYMENT PLAN* FOR INDIVIDUALS VISITING OUR SHOWROOMS AND PAYING A MINIMUM OF 10% DEPOSIT

OPTION 1: BALANCES OVER £2000: CHOOSE OUR LOW COST FIXED TERM PERSONAL LOAN, 24.9% APR OVER 2 YRS, OR 21.9% APR OVER 3 YRS - a lower cost alternative 2 or 3 year agreement, for those who wish to spread the cost over a longer period than 4 or 6 months.

OPTION 2: BALANCES OVER £1200: PAY NOTHING MORE FOR 4 MONTHS OR, OPTION 3: UNLIMITED BALANCES OVER £500: CHOOSE OUR LOW COST FIXED TERM PERSONAL LOAN, 24.9% APR OVER 2 YRS, OR 21.9% APR OVER 3 YRS - a lower cost alternative 2 or 3 year agreement, for those who wish to spread the cost over a longer period than 4 or 6 months.

OPTION 1 & 2 - During the deferred period you can settle IN FULL (without finance charges) or continue agreement with normal interest arrangements (ie. Direct Debit 27.8% APR, 2.07% Per Month or Payment Book 32.4% APR, 2.37% Per Month).

For the first 4 or 6 months you'll also receive FREE Agreement Life Cover.

GH BUSINESS FINANCE... Weekly rates shown exclude VAT and are based on a fixed cost 3 Year Apple Commercial Credit Lease payable quarterly after an initial deposit payment. Available to all businesses (including recently established) making a minimum total purchase of £750 - subject to status. FULL Details available on request.

GH BUDGET ACCOUNT... If you can't visit us personally, why not ask for an Application Pack to request a convenient, flexible GH BUDGET ACCOUNT CARD. No deposit finance can be arranged by mail. Once established, you can purchase with your new card leaving your existing credit card limits intact.

Harwood's Sizzling Summer Specials...

then pay **Nothing** until WINTER Just 10% Deposit

GH 15TH ANNIVERSARY 1982-1997

PowerMac
PowerPC
MAC
computers

FROM...
£749
Just £5.93 Per Week*



FREE... Internet Connection Kit with ALL Power Macs and Microsoft Office FREE with... 7300, 7600 and 8200 Power Macintosh models!

MACCELERATE



Unlike many 'go-faster' upgrades which oversped the standard processor, Maccelerate™ is a replacement for your Mac's original processor/daughterboard using the new faster 604e CPU with 2 integral 32k caches. Performance gains are massive - MAC USER RATED...

Mac User	Mac User
For PowerMac 7500, 7600, 8500 & 9500s	
150MHz Maccelerate	£249
180MHz Maccelerate	£349
200MHz Maccelerate	£499

Model	MHz	CPU	RAM	DRIVE(S)	CD	Ethernet	Display	Graphics	Keyboard	Price
4400/160	160	603e	16	1.2Gb	✓8	x	x	Inbuilt	Design	£749
4400/160	160	603e	16	1.2Gb	✓8	x	15" M/S	Inbuilt	Design	£969
4400/200	200	603e	16	1.2Gb	✓8	x	x	Inbuilt	Design	£899
4400/200	200	603e	16	1.2Gb	✓8	x	15" M/S	Inbuilt	Design	£1099
4400/200	200	603e	16	2Gb	✓8	✓	x	Inbuilt	Design	£1049
4400/200	200	603e	16	2Gb	✓8	✓	15" M/S	Inbuilt	Design	£1249
7300/166	166	604e	16	2Gb	✓12	✓	x	Inbuilt	Extended	£1549
7300/200	200	604e	32	2Gb	✓12	✓	x	Inbuilt	Extended	£1849
8200/120	120	601	16	1.2Gb	✓8	✓	x	Inbuilt	x	£899
8600/200	200	604e	32	2Gb + ZIP	✓12	✓	x	Inbuilt	Extended	£2199
9600/200	200	604e	0	0Gb	✓12	✓	x	x	Extended	£1799
9600/200	200	604e	32	4Gb	✓12	✓	x	✓IMS	Extended	£2499
9600/2x200	2x200	604e	32	4Gb	✓12	✓	x	✓IMS	Extended	£3249
9600/233	233	604e	32	4Gb	✓12	✓	x	✓IMS	Extended	£2899

POWERMAC OPTIONS...

ETHERNET 10 BaseT (RJ45), 7" PCI Expansion Card	£85	256k Cache DIMM (75/85/9500)	£76	Apple Pentium 166MHz, 16Mb DOS Card for PCI Macs	£649
ETHERNET 10 BaseT and 10 Base2 (Thin Coax), 7" PCI Card	£108	512k Cache DIMM (75/85/9500)	£97	CUSTOMISED POWERMACS	

Listed are standard models, we can add extra memory, drives, accelerators, graphics cards etc.

MEMORY

RAM	4Mb	8Mb	16Mb	32Mb	64Mb	8/16/32/64Mb EDO DIMM
SIMMs						UPGRADES AVAILABLE
DIMMs						PLEASE CALL

Displays
MAC



GH Budget 14" Multisync (28)	£189
GH 15" Multisync (28)	£239
Apple 15" Multisync (28)	£289
Apple 15" AV Multisync (28)	£299
Apple 17" 1705 TCO Multisync (26)	£399
Apple 17" 1710 TCO Trinitron Multisync (26)	£499
Apple 17" 1710AV TCO Trinitron Multisync (26)	£549
Apple 20" Trinitron Multisync II (26)	£1129
Mitsubishi 15" Shadow Mask HX Multisync (28) Including 3 Year Warranty	£259
Mitsubishi 17" Diamondtron TXV Multisync (25) Including 3 Year Warranty	£425
Mitsubishi 17" Diamondtron TXM Multisync (25) Including 3 Year Warranty	£499
Mitsubishi 21" Diamondtron TXM Multisync (28) Including 3 Year Warranty	£1099
Sony 15" 100SX Trinitron Multisync (25)	£259
Sony 15" 100SFT Trinitron Multisync (25)	£299
Sony 17" 200SX Trinitron Multisync (25)	£439
Sony 20" 300SFT Trinitron Multisync (30)	£979
Formac 17" F17 FST Multisync (26)	£339
Formac 17" ProNtron F17 400 Trinitron Multisync (26)	£449
D2 21" Electron 21 (28) Including 3 Year On-Site Warranty	£1129
Taxan 21" Diamondtron (28)	£1049

GH Prices INCLUDE Adaptors for all Monitors FREE!

DISPLAY OPTIONS...

Video and Graphics Cards...	£269
I.M.S. Twin Turbo 4Mb Card with 5 Year Warranty	£399
I.M.S. Twin Turbo 8Mb Card with 5 Year Warranty	£155
Formac ProVision 2/20 (2Mb, 64 Bit, Half Length)	£199
Formac ProVision 4/60 (4Mb, 128 Bit, Half Length)	£259
Formac ProVision 4/80 (8Mb, 128 Bit, Half Length)	£349
Formac ProVision 4/80 (8Mb, 128 Bit, Accelerated, Half Length)	£549
Miro Motion DC20 Video Editing Card (Adobe Premiere 4.2)	£699
VRAM Upgrades...	

To give even higher screen resolutions and more colours etc.

ECALL

PowerBook
PowerPC
MAC
computers



GH POWERBOOK 1400s
Higher Specs, Lower Prices!

PB 1400s INCLUDE... Internet Connection Kit, Claris Works, Route 66, Claris Organizer, ARA, GSM Connection Kit

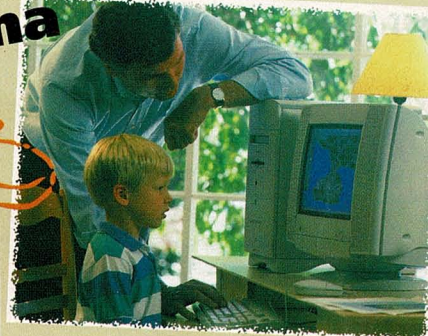
1400cs/117 12/750, DS	£999
1400cs/117 12/1000, DS	£1199
1400cs/117 16/750, DS, CD	£1199
1400cs/117 16/1000, DS, CD	£1399
1400cs/117 16/750, DS, CD, StyleWriter 2200, Carry Case	£1399
1400cs/117 16/1000, DS, CD, StyleWriter 2200, Carry Case	£1599
1400cs/133 16/1300, DS, CD	£1899
1400c/133 16/1100, AM, CD	£2049
1400c/133 16/1300, AM, CD	£2299
3400c/180 16/1300, AM	£2749
3400c/180 16/1300, AM, 12 Speed CD, Ethernet	£3049
3400c/200 32/2000, AM, 12 Speed CD, Ethernet, inc. SoftWindows 3.11	£3499
3400c/240 16/3000, AM, 12 Speed CD, Ethernet	£4099

POWERBOOK OPTIONS...

1400 8 Speed CD-ROM	£249	Accessories also available for earlier PBs inc 150/190/5300
1400 ZIP Drive VST	£219	1400 8Mb Upgrade
1400 Car Adaptor VST	£79	1400 16Mb Upgrade
1400 AC Adaptor	£39	1400 24Mb Upgrade
1400 Battery	£69	1400 12 Speed CD-ROM Module
1400 TDK 28.8 Fax/Modem	£229	3400 Lithium Ion Battery
1400 8-Bit Video Out Card	£70	Sony Portable CD Player & PCMCIA Adaptor
		PowerBook Carrycases

Performa
PowerPC
MAC
computers

FROM...
£699
Just £5.55 Per Week*



Model	MHz	CPU	RAM	HD	CD	Display	TV/Text	Video	MPEG	Modem	Keyboard	Price	Software Pack
PF5260	120	603	16	1.2Gb	✓4	15" Integral	✓	✓	✓	✓28.8	Design	£749	DISNEY PLUS 3
PF6320	120	603	12	1.2Gb	✓8	x	x	x	x	x	Design	£699	DISNEY PLUS 3
PF6320	120	603	12	1.2Gb	✓8	15" M/S	x	x	x	x	Design	£899	DISNEY PLUS 3
PF6320	120	603	12	1.2Gb	✓8	15" AV M/S	x	x	x	x	Design	£979	DISNEY PLUS 3
PF5400	160	603e	16	1.6Gb	✓8	15" Integral	x	x	x	✓28.8	Design	£999	FAMILY PACK
PM5400	180	603e	16	2.0Gb	✓8	15" Integral	x	x	x	✓28.8	Design	£1049	FAMILY PACK
PF5400 Black Mac	180	603e	16	1.6Gb	✓8	15" Integral	✓	✓	✓	✓28.8	Design	£1199	FAMILY PACK
PM5500 Black Mac	225	603e	32	2.0Gb	✓12	15" Integral	✓	✓	✓	✓33.6	Design	£1599	FAMILY PACK
PF6400	180	603e	16	1.6Gb	✓8	x	x	x	x	✓28.8	Design	£849	HOME OFFICE
PF6400	180	603e	16	1.6Gb	✓8	15" AV M/S	x	x	x	✓28.8	Design	£1099	HOME OFFICE
PF6400	200	603e	16	2.4Gb	✓8	x	x	x	x	✓28.8	Design	£999	HOME OFFICE
PF6400	200	603e	16	2.4Gb	✓8	15" AV M/S	x	x	x	✓28.8	Design	£1249	HOME OFFICE
PM6400	200	603e	16	2.4Gb	✓8	15" AV M/S	x	x	x	✓28.8	Design	£1299	HOME OFFICE
PF6400	200	603e	24	2.4Gb	✓8	x	x	x	x	✓28.8	Design	£1369	CREATIVE STUDIO
PF6400	200	603e	24	2.4Gb	✓8	15" AV M/S	✓	✓	✓	✓28.8	Design	£1625	CREATIVE STUDIO
PM6500	250	603e	32	3.0Gb	✓12	x	x	x	x	✓33.6	Design	£1379	HOME OFFICE
PM6500	250	603e	32	3.0Gb	✓12	15" AV M/S	x	x	x	✓33.6	Design	£1699	HOME OFFICE
PM6500	275	603e	32	4.0Gb	✓12	x	x	x	x	✓33.6	Design	£1999	CREATIVE STUDIO
PM6500	275	603e	32	4.0Gb	✓12	15" AV M/S	✓	✓	✓	✓33.6	Design	£2199	CREATIVE STUDIO

FAMILY PACK...

• Grolier Multimedia Encyclopedia • DK's Ultimate Human Body • Sammy's Science House • Thinkin' Things 3 • Full Throttle • PowerPete • The Best of European Soccer • Claris Works • HyperCard Player • Acrobat Reader • MacLink Plus • At Ease • Apple Internet Connection Kit • Apple Telecom 3.0 PLUS... • The Apple Macintosh Software Collection by Disney AND... with all 5400s and 6400s... • Decent AND... with 5500/225s... • Actua Soccer and • KAIS Power Goo

HOME OFFICE Pack...

• Items in FAMILY pack PLUS... • Claris Impact and... • Claris Organizer! AND... with 6500/250 • Actua Soccer

CREATIVE STUDIO Pack...

• KAIS Power Goo • Avid Cinema • Cubase AV • Dabber • Adobe PageMill and PhotoDeluxe AND... with 6500/275 Creative Studio... • 3D World • ClickArt • Actua Soccer

DISNEY Plus 3 Pack...

• Grolier Multimedia Encyclopedia • Millie's Math House • Thinkin' Things 2 • Mavis Beacon • SuperMaze Wars • Spin Doctor • At Ease • Claris Works 3 • ClickArt • HyperCard Player • MacGallery ALL PRE-INSTALLED ON HD PLUS on CD ROM... • Making Music • The Way Things Work • Daedalus Encounter • Rock Rap & Roll • RedNex • MYST AND... • Disney's Lion King Story Book • Aladdin Activity Centre • TOY STORY (Preview) • Internet Connection Kit

PERFORMA 5400, 5260, 5260, 5300, 5320, 6200, 6300 and 6320 OPTIONS...

Personal COMMMS Solution (models without Ethernet FAX, Internet and Answer Phone Facility, etc.)	14.4 version	£109	28.8 version	£179
Ethernet Cards (models without Personal Commms)	Thin Co-Ax	£59	UTP	£59
Apple Video Out Card	£99	MPEG FMV Video CD Playback Card (only fits 630 models without a DOS Card)	£175	Apple Internet Connection Kit

PERFORMA 5400 and 6400 OPTIONS...

Apple Video-In Card	£69	Apple Video-In TV Tuner Card	£129	Apple Commms Slot II Ethernet Card	£75	Apple 256k Level 2 Cache Card	£75
---------------------	-----	------------------------------	------	------------------------------------	-----	-------------------------------	-----

Manufacturers' specifications and GH prices are correct at time of going to press, however, they may fluctuate and we therefore reserve the right to amend them - please confirm prices before ordering. Software/Product packaging for bundled systems may not be included and is shown for illustration purposes only.

PRINTERS

LASER PRINTERS...

APPLE LaserWriter 4/600PS - A4, 600 dpi Mono	£575
APPLE LaserWriter 12/640PS - A4, 600 dpi Mono	£999
APPLE LaserWriter 16/600 - A4, 600 dpi Mono	£1399
APPLE LaserWriter 12/660PS - A4, 600 dpi Colour	£4499
HP LaserJet 6MP - A4, 600 dpi Mono, 3Mb RAM, 8ppm.	
Features both Parallel and Local Talk Connections	£649
LEXMARK Optra R+ Pro - A4, 1200 x 1200dpi Mono, 8Mb, LocalTalk, 16ppm at 600dpi or 8ppm at 1200dpi, On-Site Maintenance	£1199
GCC Elite 12/12 - A4, 16Mb RAM, Edge to Edge, Ethernet	£1099
GCC XL608 - A4, 6Mb RAM, 600x600 dpi, Edge to Edge, Ethernet	£1899
Techtronix Phaser 350 Solid Ink - A4, 600 x 300dpi Colour, 8Mb, LocalTalk, SCSI for External HD, 6ppm Fast Colour Mode	£2699
Techtronix Phaser 550 Laser - A4, 600 x 600dpi Colour, 8Mb, LocalTalk, SCSI for External HD, 5ppm Colour, 14ppm Mono	£3299
QMS MagiColor CX8 - A4, 600dpi Mono, 300dpi Colour, 8Mb, LocalTalk, 12ppm Mono, 6ppm Colour	£3599
QMS MagiColor CX40 - A4, 1200 x 1200dpi, 40Mb, LocalTalk, 12ppm Mono, 6ppm Colour	£4599

COLOUR INKJET PRINTERS...

APPLE StyleWriter 1500 720 x 360dpi (See offer - Page 1 from £99)	
APPLE StyleWriter 2200 720 x 360dpi	£229
APPLE StyleWriter 2500 720 x 360dpi (See offer Page 1 from £149)	
APPLE StyleWriter EtherTalk Kit	£145
CANON BJ4550 Colour - A3 Mac or Amiga	£309
EPSON Stylus Colour 600 - Colour - A4 1440 x 720dpi	£229
EPSON Stylus Colour 800 - Colour - A4 1440 x 720dpi	£329
EPSON Stylus Colour Pro - Colour - A4 720 x 720dpi	£289
EPSON Stylus Pro XL+ - Colour - A3 720 x 720dpi	£799
EPSON Stylus Colour 1520 - Colour - A2 1440 x 720dpi	£599
HP 870Cxi DeskWriter - Colour 600 x 600dpi	£329
LEXMARK 4079+ - A3, 360 dpi Colour, 4Mb, PS2, LocalTalk	£2149
LEXMARK 4079+ Pro - A3, 360 dpi Colour, 20Mb, PS2, LTalk	£2389
PRINTER UTILITIES...	
POWERPRINT - Allows use of parallel printers with your Mac	£79
STYLESRIPT - Adobe PS RIP for Apple Colour StyleWriters	£79
BIRMY PostScript RIP - for Stylus Pro/Pro XL+	£175
EPSON PS RIP - for new Stylus 600/800/1520 range	£Available Soon

PRINTER CONSUMABLES

APPLE STYLEWRITER...		
I II, Portable, 1200, 1500 (M8041/GA)	Black Cartridge	£14
1500 (M4069/GA)	Colour Cartridge	£23
2400, 2500 (M3240/GA)	Black Cartridge	£26
2400, 2500 (M3282/GA)	Colour Cartridge	£33
2400, 2500 (M3330/GA)	Black Ink Tank	£7
2400, 2500 (M3329/GA)	Colour Ink Tank	£13
2500 (M55772M/A)	Photocopy Kit	£47
2500 (M5581/GA)	Premier Plus Paper	£29
2500 (M5579/GA)	Photocopy Ink Cartridge	£25
Colour StyleWriter Pro (M3822/GA)	Black Hi-Capacity Cartridge	£8
Colour StyleWriter Pro	C, M, or Y Cartridge	ea. £8
Colour StyleWriter Pro	CMYK - 4 Col Set Cartridges	£38

GENUINE APPLE Toner Cartridges	
LaserWriter 300, 320, 4600 (M2045G/A)	£45
LaserWriter LC, SC, NTR (M0089L/A)	£55
LaserWriter Select 360 (M1960G/A)	£69
LaserWriter 12/640 (M4839G/A)	£89
LaserWriter 16/600 (M2473G/A)	£79
GENUINE APPLE Colour LaserWriter Consumables	
Fuser Oil (M3755G/A)	£29
Black Toner (M3756G/A)	£77
Colour Toner - C, M, or Y	ea. £89
CANON BJ 4550 and HP PRINTER CONSUMABLES	£Please Call

CAMERAS

AGFA ePhoto 307 Camera, 640 x 480, 36 Hi-Res Images	£254
CASIO QV-10a Camera, 320 x 240, 96 Images, Flash	£289
CASIO QV-100a Camera, 640 x 480, 96 Images, Flash	£399
CASIO QV-300a Camera, 640 x 480, 96 Images, Flash	£499
APPLE QuickTake 200 Camera, 640 x 480, 30 Images, Flash	£399
APPLE QuickTake Lens QuickTake 100 to QuickTake 150 upgrade Lens	£25
KODAK DC20 Camera, 494 x 373, 1Mb, 16 Images, Kai's GOO!	£159
KODAK DC25 Camera, 494 x 373, 2Mb, 29 Images, Kai's GOO!	
INC. £100 VOUCHER for 2Mb PCMCIA Card FREE! - VALID TO 15th June '97	£319
KODAK DC50 Camera, 756 x 504, 1Mb, 22 Images, Flash, Zoom	£459
KODAK DC120 Camera, 1280 x 960, 2Mb, 20 Images, Flash, Auto Focus Zoom	£749
CONNECTIX QuickCam Colour 640 x 480	£149
ADOBE Photo Deluxe Software to edit/manipulate your camera images	£74

AT-GH WE MAKE EVERYTHING EASY...

PHONE GH...
We welcome all major credit/debit cards with NO TRANSACTION SURCHARGES.

ORDERING BY POST OR FAX...
Please include your Name, Address and preferably daytime and/or evening phone or fax number with your requirements. If using your debit/credit card include its number and valid expiry dates (also issue number with Switch cards). Please make cheques (allow 7 days clearance), Drafts or P.O.s payable to... Gordon Harwood Computers Limited.

GH PRICES...
All UK and EC customers please add VAT at the standard rate of 17.5% to all prices. UK overseas Armed Forces Personnel may be exempt VAT - please ask for details.

DELIVERY...
We offer prompt shipment with fully insured express delivery options throughout the UK, Europe and Worldwide at a modest cost. If ordering by mail, please call to confirm the appropriate delivery charges.

GH WARRANTY...
Manufacturers' standard warranties apply, or ask about GH's comprehensive extended options which are always recommended for professional users to minimise costly down time - details available on request.

ALL PRICES EXCLUDE VAT
...and are shown for businesses only. Consumers please ask for VAT inclusive prices.

SCANNERS

APPLE Color One - 600-27	£349
APPLE Color One - 1200-30	£549
UMAX Astra 600s - 30 Bit	£169
UMAX Astra 600s - 30 Bit - with Photoshop LE	£189
UMAX Astra 600s - 30 Bit - Transparency Adaptor/Full Pshp	£468
UMAX Vista S12	£325
UMAX Vista S12 - with Photoshop LE	£349
UMAX Vista S12 - with Full Photoshop	£449
UMAX Vista S12 - with Transparency Adaptor/Full Photoshop	£799
UMAX PowerLook Colour Studio II - Pshp LE, Binuscan, FGSII	£749
UMAX PowerLook Colour Studio II - Full Pshp, Binuscan, FGSII	£899
UMAX PowerLook 2000 - with Transp. Adap/Binuscan/Full Pshp	£2995
UMAX Mirage II A3 - with Transparency Adaptor/Full Photoshop	£Call
UMAX Vista Transparency Adaptor	£325
UMAX Astra Transparency Adaptor	£199
UMAX PowerLook Colour Studio II Transparency Adaptor	£250
TEXTBRIDGE Purchased with ANY Umax scanner	£39
UMAX S6e and S12 - Upgrade to 2 Year Warranty	£30
UMAX S6e and S12 - Upgrade to 3 Year Warranty	£50
MICROTEK ScanMaker E3 - with Omnipage	£189
MICROTEK ScanMaker E3 - with Omnipage/Photoshop LE	£225
MICROTEK ScanMaker E3 - with Omnipage/Full Photoshop	£299
MICROTEK ScanMaker E6 - with Omnipage	£329
MICROTEK ScanMaker E6 - with Omnipage/Photoshop LE	£369
MICROTEK ScanMaker E6 - with Omnipage/Full Photoshop	£449
EPSON GT 5000 - with TextBridge/Photoshop LE	£249
EPSON GT 9500 - with TextBridge/Photoshop LE	£549
EPSON GT 9500 - with Full Photoshop	£659
EPSON Transparency Adaptor - (except 9500)	£399
AGFA SnapScan - with Photomagic and Omnipage	£169
AGFA StudioScan II S1 - with Photoshop LE	£390
AGFA StudioStar - with Photoshop LE and Omnipage	£550
AGFA DuoScan - with Transparency Adaptor/Full Photoshop	£2795
VISIONEER PaperPort VX - with SCSI Adaptor & WordScan/OCR	£199
VISIONEER PaperPort VX - SCSI Adaptor	£49
FOUR PORT JUGGLER - for PaperPort/Modems	£See Accessories

GRAPHICS TABLETS

WACOM ArtPad II - with Dabblor	£99
WACOM UltraPad A5 - inc. Freehand Graphics Studio	£219
WACOM UltraPad A4 - inc. Freehand Graphics Studio	£329
WITH Painter BUNDLES!	
WACOM UltraPad A3 - inc. Freehand Graphics Studio	£499
WACOM UltraPad A2 - inc. Freehand Graphics Studio	£1249
CALCOMP - Drawing Slate II - A5 with Cordless Pressure Pen	£85
CALCOMP - Drawing Slate II - A5 with Cordless Pressure Pen	£119
CALCOMP - Drawing Slate II - A4 with Cordless Pressure Pen	£279
CALCOMP - Drawing Slate II - A3 with Cordless Pressure Pen	£419

STORAGE

D2 QUANTUM Hard Drive 2.1Gb - Internal	£219	External £249
D2 QUANTUM Hard Drive 3.0GbAV - Internal	£279	External £319
D2 IBM Hard Drive 4.0GbAV - Internal	£399	External £479
D2 QUANTUM Hard Drive 6.0GbAV - Internal	£469	External £529
D2 QUANTUM Hard Drive - 9.0Gb (Internal Atlas II AV)	£599	
D2 QUANTUM Hard Drive - 9.0Gb External (Atlas II AV)	£1049	
SYQUEST E2135 Cartridge - Single	£15	6 PACK £108
SYQUEST E2230 Cartridge - Including Cartridge & Cable	£169	
SYQUEST E2230 Cartridge - Single	£20	6 PACK £108
IOEMGA 100Mb ZIP Drive - Including Cartridge & Cable	£199	
IOEMGA ZIP Cartridge - 100Mb - Single	£10	6 PACK £54
D2 JAZ Drive - Including Cartridge & Cable	£299	
IOEMGA JAZ Drive - Including Cartridge & Cable	£329	
IOEMGA JAZ Cartridge - 1Gb - Single	£59	3 PACK £175
NOMAI/D2 540Mb 3.5" Syquest Drive - Inc. Cart. & Cable	£209	
NOMAI/D2 540Mb Syquest Cartridge	£39	
FORMAC 200Mb Syquest Drive - Including Cartridge & Cable	£349	
SYQUEST Cartridge - 44Mb £28	£30	SYQUEST Cartridge - 88Mb £34
D2 230Mb Optical Drive - Including Cartridge & Cable	£249	
OPTICAL DISK - 230Mb	£20	
PINNACLE 2.6Gb Optical Drive - Inc. Cartridge & Cable	£849	
SONY/D2 CD Writer - Double Speed Write, Six Speed Read.	£349	
Includes... your choice of Toast or Gear Software	£479	
YAMAHA/D2 CD Writer - Quad Write, Six Read, Toast or Gear	£349	
PINNACLE RCD 5040 CD Writer - Including Software	£599	

CD DRIVES

D2 CD1200e - EIGHT speed including cables	£139
D2 CD1800e - TWELVE speed including cables	£159
D2 CD1800e - SIXTEEN speed including cables	£199
MICRONET CD1200e - EIGHT speed inc. 5 Software Titles	£189
MICRONET CD2400e - SIXTEEN speed inc. 5 Software Titles	£199

COMMS

APPLE 28.8 GeoPort II - for POWERMACS	£109
APPLE 28.8 Personal COMMS Solution - 28.8bps (for... 630/5200/5260/5300/5320/6200/6300/6320)	£179
MOTOROLA 28.8 3400 Pro - V34	WHILE STOCKS LAST £89
MOTOROLA 56.0 PC/Apple Modem	£129
MOTOROLA 33.6 PCMCIA - for Apple/PC	£135
MOTOROLA ISDN BitSurfer Pro - Terminal Adaptor	£299
US ROBOTICS Sportster Voice - 33.6	£119
US ROBOTICS Sportster Voice Mac Flash - 33.6, 56K Ready!	£119
GLOBAL VILLAGE TelePort Internet - 9 Pin Serial 33.6	£119
GLOBAL VILLAGE TelePort Internet - 8 Pin Serial 33.6	£119
GLOBAL VILLAGE PowerPort Gold PCMCIA - 14.4	£189
FAX FRIEND - Auto switch between FAX/Voice calls	£49
VOCALTEC Internet Voice Phone - for Macs	£39
APPLE Internet Connection Kit - software suite compatible with ALL Modems	£47
GLOBAL TRANSFER - THE EASIEST direct file transfer software for use between ALL Macs and ANY Modem - child's play!	£26

ACCESSORIES

THIRD PARTY Extended Keyboard	£40
APPLE Design Keyboard	£59
APPLE Extended Keyboard	£89
APPLE Adjustable Keyboard	£139
SONY - Speakers... PC21 £29, PC41 £49, PC51 £55	
APPLE Mouse II	£28
KENSINGTON V5 Turbo - Mouse	£68
KENSINGTON Thinking - Mouse	£51
KENSINGTON Mouse in a Box	£28
MACALLY Mouse	£17
MACALLY Joystick	£32
MACALLY GamePad	£22
FLIGHTSTICK Pro - Joystick	£68
GRAVIS FireBird - Joystick	£85
JETSTICK - Joystick	£38
FOUR PORT JUGGLER - extra ports for 8 Pin Macs (not PPCs)	£89
FOUR PORT JUGGLER Pro - extra ports for 9 Pin PowerMacs	£115
APPLE ONE YEAR ON-SITE MAINTENANCE - for NEW products	£15

BOOKS

MAC - Frequently Asked Questions	£16	SYSTEM 7.5 FOR DUMMIES	£16
CLARIS Xpress Bible	£23	QUARK XPress Bible	£32
FILEMAKER PRO 3 Bible	£29	CREATING COOL WEB PAGES	£16
PHOTOSHOP 3 Bible	£38	INTERNET FOR DUMMIES	£16

SOFTWARE

GRAPHICS...		BUSINESS...	
QUARK Xpress 3.3	£649	CLARIS Works 4	£94
QUARK Imedia	£689	CLARIS Works 4 International Edition	
ADOBE PageMaker 6.5	£399	inc. HomePage 2, NetScage 3 etc.	£75
ADOBE Illustrator 7	£279	CLARIS Works to MS Office v4	£179
Illus. 7 Upgrade (from any version)	£99	CLARIS iMail 2.0	£42
ADOBE Photoshop 4.0	£399	CLARIS Organizer 2.0	£59
ADOBE Collection	£549	CLARIS Draw	£95
KAI's Power Tools 3.0	£95	CLARIS Impact	£95
KPT Vector Effects	£89	CLARIS Filemaker Pro 3	£159
KPT Power Photos 1, 2 or 3	ea. £89	CLARIS Home Page 2.0	£69
KPT Converter	£89	MICROSOFT Office 4.2	£359
KPT Bryce II	£139	MICROSOFT Word 6.0	£245
KAI's GOO	£42	MICROSOFT Excel 5.0	£245
MACROMEDIA Freehand 7	£309	M.Y.O.B. V6.0 - Accounts	£149
inc. Macromedia PowerPack		MAC MONEY	£62
MACROMEDIA Freehand 7	£429	SOFTWINDOWS 3.0 - CD/3.5"	£225
Graphics Studio	£429	SOFTWINDOWS 95 V4.0 - CD	£279
BITFOLIO CD7 - 10000 Pro Clip Art	£42	HYPERCARD 2.3.1	£94
COREL Draw - Upgrade to Suite	£99	LET'S KEEP IT SIMPLE - S/Sheet EDUCATION...	£98
UTILITIES...		CREATIVE WRITER/FINE ARTIST	£39
SPRING CLEANING	£26	ENCARTA 97	£39
NORTON Utilities 3.2	£74	GROLIERS Encyc. Science/Fiction	£39
AFTER DARK 4 - CD	£16	DORLING KINDERSLEY...	
APPLE System 7.5.5 - CD/3.5"	£59	Virtual Reality Earth Quest	£19
ADOBE ACROBAT PRO	£159	20th Century Chronicle	£24
DANITZ Retrospect 3	£69	The Way Things Work 2.0	£24
CONFLICT CATCHER	£52	Encyc. of Space & Universe	£24
DR SOLOMON'S - Anti Virus	£59	Ultimate 3D Skeleton	£18
VIREX - Anti Virus	£59	Ultimate Human Body 2.0	£24
SAM	£54	Virtual Reality Cat	£19
SAM (On-Line Updates for 1 Year)	£109	Virtual Reality Bird	£19
RAM DOUBLER 2.0	£35	Virtual Reality Dinosaur Hunter	£19
SPEED DOUBLER 2.0	£35	Encyclopedia of Science 2.0	£24
STUFFIT Deluxe 4.0	£66	World Reference Atlas	£30
LEISURE		THINK AND TALK - GERMAN	£44
ACTUA SOCCER	£25	READING DEVELOPMENT - Series 1	ea. £25
SIM CITY 2000 - CD Collection	£33	Series 2, Series 3 or Series 4	ea. £25
WARCRAFT II	£28	TEACH YOURSELF CALCULUS	£19
WARCRAFT II Expansion	£16	ZOOBINIS - Logical Journey	£23
INDY CARS II	£14	DR SEUSS - Green Eggs & Ham	£23
F18 HORNET V2.0	£43	LOST MIND OF DR BRAIN	£21
NASCAR RACING	£24	TIME WARP OF DR BRAIN	£21
WING COMMANDER IV	£37	PROF. TMS INCREDIBLE MACHINES	£21
VIRTUAL POOL	£26	THINKIN' THINGS 3	£14
MARATHON INFINITY	£36		

NEWTON

NEWTON 130 MkII - 2.5Mb, Backlit Screen	£449		
NEWTON 2000 - 8Mb, Backlit Screen	£629		
NEWTON GSM BUNDLE	£949		
NEWTON ACCESSORIES...		NEWTON SOFTWARE...	
Keyboard	£65	PowerForms	£74
Print Pack	£39	GoFigure	£24
1Mb Storage Card	£55	Beritz 5 Language (PCMCIA)	£70
2Mb Storage Card	£105	Jig Saw Strategy Game	£16
4Mb Storage Card	£185	Equate	£61
External FAX/Modem	£84	Press for Mac	£52
AC Adaptor	£19	Notion (The List Manager)	£32
Car Adaptor	£23	TapWorks	£55
FOR 110/120/130 Models...		Accountable	£88
Mains Recharger Cradle	£49	Leverage 2.0	£69
Leather Carrycase	£29	Time Reporter	£69
Nicad Battery Pack	£15	Quick Figure Pro	£43
Stylus	£8	Now Synchronise	£22
FOR 2000 Model...			
2000 Carry Case (H02182B)	£29	As a fully Authorised	
2000 Keyboard Carry Case (H02282A)	£65	Apple Newton Centre...	
Wireless Comms Case (H01812B)	£49	GH have lots more for	
AC Adaptor (H02142A)	£29	YOUR Newton - call us now and	
Battery Pack (H02122A)	£24	ask for the product YOU want!	
4Mb Flash Upgrade (H02302A)	£99		

gordon harwood computers

01773 836781

PICK UP THE PHONE AND ORDER TODAY FOR DELIVERY TOMORROW

SHOWROOMS

OPEN SATURDAYS

EXPERT ADVICE

LARGE STOCKS



The Mac's leading DTP program revamped ■ Fractal's natural media pioneer ■ A host of new Macs ■ Games special ■ Compiled by Richard Hill.



Painter 5

Fractal Design's *Painter* has carved a distinctive niche for itself. Since its initial launch, both the program and the company have evolved so that *Painter* now heads an entire range of natural media software, which you can use to reproduce effects on your Mac screen that you'd otherwise only be able to make with traditional paint and pencils. The new *Painter 5* adds extra natural techniques to its toolset, of course, but you'll also find great potential for extending the program's abilities into new areas. You should also appreciate the program's new price: it's dropped from £469 to £350. The new version will only work on PowerMacs, though.

Painter will be one of the key titles for the new graphics giant due to emerge shortly as Fractal merges

with MetaTools (see News, page 16). While this latest version of *Painter* (due to appear in June) doesn't use any MetaTools technology just yet, there are plenty of new features which show the program's potential under its new

MetaCreations banner.

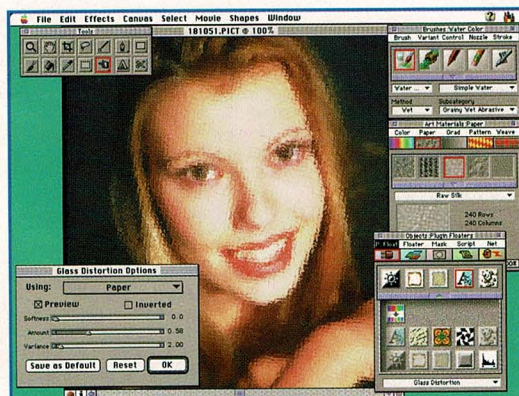
Highlights from the range of over 100 new brushes include effects inspired by cutting-edge MetaTools programs like *Power Goo* and *Power Soap*, although the technology used here is Fractal's alone. Goopy brushes turn your image into virtual putty, enabling you to twist and pull your image

about, while the Scratch Remover cleans up any dirty scanned images with a single sweep.

Effects tools that Fractal calls "Plug-in Floaters" enable you to customise your *Painter* set-up simply by adding new brushes or special effects. These enable you to



The heart of *Painter* is the way you can use it to make marks in so many different ways.



The new *Painter* adds a fresh set of tools that Fractal calls "Floaters". You can apply effects like this pane-of-glass distortion over part or all of your image, then return to it later to modify or remove the effect made.

apply effects like burnt or torn paper edges to your work, or distort all or part of your image with glass lens effects. You can even paint with liquid metal, with drops of paint that reflect their surroundings. As the name suggest, all Floaters remain above the surface of your image, so you can change or remove the effect without permanently affecting your work. Fractal anticipates a busy trade in its new plug-ins, as it invites other firms to create new tools you can buy or download over the Internet. *Painter* still retains its ability to use *Photoshop* plug-ins.

The new program has more subtle similarities with *Photoshop*:

Fractal has changed *Painter*'s methods for setting up masks and other selection tools to match those of *Photoshop*, enabling you to swap files between the two more readily. A set of Floaters reproduce the effects of *Photoshop 4.0*'s Adjustment Layers, enabling you to apply brightness or contrast changes, for example, on top of an image without changing it permanently.

■ **Price:** £350. ■ **Out:** June.
■ **Requires:** PowerMac with 12Mb of free RAM, System 7.5, a CD-ROM drive and a 256-colour screen.
■ **Contact:** Principal on 01756 704040.



Made in *Painter*: Illustrations by (from left) Judy York, Douglas Lockyer, Allen Toney, Margaret Sweeny and Sandy Young.



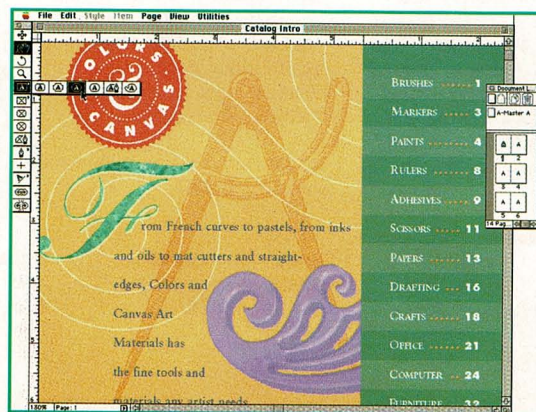


QuarkXPress 4.0

With the exception of *Photoshop*, *QuarkXPress* is probably the software package most associated with the Mac: the desktop publishing program dominates the professional publishing industry to the extent that the ability to use it is vital, as you'll see if you look in the job adverts in any design magazine. It's this position of influence that means *XPress* and the company which makes it attract huge attention. The design community is passionate about *XPress* – sometimes with love, sometimes hate – so the forthcoming version 4.0 of the program is bound to mark a turning point in our relationship with the program.

XPress's most obvious new feature is its ability to use Bézier curves – smooth flowing lines that you have precise control over. This is a tool more usually found in illustration programs like *FreeHand*. Its presence here means you can set type along a curved line or create a picture box with an irregular shape.

The most useful Bézier feature, though, is the ability to create clipping paths. At the moment, if you



QuarkXPress 4.0 will enhance your publishing productivity not only through subtle interface changes, but also through its major new tools.

want to place a cut-out image on your *XPress* page, you first have to use an image editing program like *Photoshop* to create a clipping path around it, defining the area that will be visible on the final page. With *XPress 4.0*, though, you'll be able to set up this path within the program itself, or edit an existing path you made earlier in *Photoshop*. *XPress*'s maximum zoom level will stand at 800% (double the previous limit) to help you take advantage of these precision tools.

QuarkXPress has one of the most sophisticated interface designs of any Mac program, with menu items, dialogue boxes and keyboard shortcuts carefully linked to give you precise control over your type and page layout. Subtle changes to the *XPress 4.0* interface include pop-out tools in the main tool palette, which enable you to get fast access to new features like irregularly-shaped text boxes. You'll also find that in version 4 of *QuarkXPress*, many dialogue boxes you had to

call up one at a time have been brought together into a tabbed system, so you can move from one box to another simply by clicking on the tab. A print dialogue box, for example, contains tabs for page set-up, output control and also for previewing.

Other fine-tuned features include Style Sheets you can apply to single characters rather than entire paragraphs as a minimum, and the ability to wrap text around every side of an object placed in the middle of a column.

While Quark is still to announce price and release details for *QuarkXPress 4.0*, you can expect it to cost around the same as its current £1,175. Quark has yet to announce System requirements, but the program will still work on 68K Macs like the Quadra as well as PowerMacs. What's more, the 68K and PowerMac versions of *QuarkXPress 4.0* will come in the same box, which certainly represents some progress.

■ Price: TBA. ■ Out: TBA.
■ Contact Quark Systems on 01483 454397 for more details.

Fallout

The world is devastated by nuclear war; gangs of mutants plunder the remains of our old civilisation, while the remnants of humanity survive underground. But when disaster strikes the fragile ecostructure, you have to venture into the world above in a desperate search for equipment before your society is forced to choose whether to die a slow death below... or risk living on the surface once more.

Fallout takes you into a chilling, tough Earth of the near future,



Many individual characters, each with their own complex motives, populate the world of *Fallout*.

with a game style that's a cross between a computer adventure and a role-playing board game. You can either create your own character from scratch, picking the right balance of attributes you think you'll need to make it through, or use one of three ready-made characters. You interact with the *Fallout* world using a sophisticated action and combat system which enables you to employ different tactics, depending on the situation you're in. If you live, you'll gain experience points which you can use to equip yourself for the challenges to come.

A game of adult sensibilities, *Fallout* pulls no punches in depicting a world of physical and emotional violence. Watch for this potentially highly involving title in summer.

■ Price: £39.99. ■ Out: summer.
■ Requires: PowerMac, System 7.1.2, 16Mb RAM, a CD drive.
■ Contact: Interplay for more details on 01628 423666. ➤



Fallout will immerse you in a tough future world where you have to use your wits to survive.

With strong role-playing roots, *Fallout* enables you to create your own lead character, carefully balancing the attributes you'll require to succeed.





Dabs Picasso

Another company joining the swelling ranks of Mac-compatible makers, Dabs is the second UK dealer (after Computer Warehouse) to offer its own Mac clone range. As the



Dabs joins the new wave of UK dealers offering their own Mac-compatible systems.

name hints, the Picasso range is tailored for the demanding needs of the design community – the 4Mb of Video RAM in the Picasso Master systems, for example, will enable you to just plug in and use a 21-inch monitor. The machines should suit anyone seeking that elusive combination of low cost and high performance, though.

The new Picasso range is based

around the speedy 604e processor in its 160MHz and 200MHz variations. Although you'll find four models in the range, Dabs says it will make a machine up to your specifications, adding extra memory, video hardware or a Zip drive, for example.

■ Call Dabs free on 0800 68000 for more details.



If you're a graphic designer, the Picasso range offers a great deal.

Dabs Picasso facts

	CPU	Speed	RAM	Video RAM	Hard drive	Price
Picasso 160	PPC 604e	160MHz	16Mb	2Mb	2.1Gb	£1,350
Picasso Master 160	PPC 604e	160MHz	32Mb	4Mb	2.5Gb	£1,526
Picasso 200	PPC 604e	200MHz	32Mb	2Mb	2.5Gb	£1,644
Picasso Master 200	PPC 604e	200MHz	64Mb	4Mb	3.8Gb	£1,761

All prices include VAT. All machines include a 16-speed CD-ROM drive and a 256K Level Two RAM cache for improved processor performance. You'll have to buy your monitor separately.

Starmax 5000/300

Motorola's first new Mac-compatible since it launched its initial range sets new records for processor power, taking the formerly humble PowerPC 603e up to a mighty 300MHz. The StarMax 5000 is the first 300MHz personal computer to appear in Europe; Apple has an equivalent machine which is only on sale in the US.

Like Dabs's Picasso machines, the StarMax 5000 is aimed at designers: 4Mb of Video RAM complement its

fast processor by enabling you to use a large 21-inch monitor immediately. There's also a second version of the 5000/300 with a built-in IMS Twin Turbo video card, enabling the machine to display richly detailed video smoothly. The new StarMax also includes a Zip Drive from Iomega, so you can store big graphics files on its 100Mb disks.

A 16-speed CD-ROM drive, 512K of additional RAM cache and five PCI slots for expansion cards round off this StarMax package. At the

time of going to press, the prices of these two new models had not been confirmed. Look out for details of them in our Buyer's Guide in future issues.

■ Contact: Principal on 01756 704481 for more details.



Motorola announced its first new machines since its initial launches.

StarMax facts

	CPU	Speed	RAM	Video RAM	Hard drive	Price
5000/300	PPC 603e	300MHz	32Mb	4Mb	4.3Gb	TBA
5000/300 with IMS	PPC 603e	300MHz	32Mb	4Mb + card	4.3Gb	TBA

All prices include VAT. You'll have to buy your monitor separately.

PowerCenter Pro 210



The PowerCenter Pro employs creative ideas to increase its speed.

Power Computing's latest Mac-compatible brings new vigour to what was an aging line in the middle of the company's range. The £2,114 PowerCenter Pro builds on the PowerCenter philosophy of offering performance without the price, including an admittedly un-

glamorous enhancement that adds a thrilling burst of extra speed.

All Macs rely on a feature called

the "System bus" to relay information between the machine's processor and its memory. Power says the PowerCenter Pro offers the fastest bus yet seen on any Mac at this price, running at 60MHz rather than the more typical 40 to 50MHz. The result is that the PowerCenter Pro should outperform any Mac using an equivalent processor.

The theme of "tweaking" the specifications of the components to squeeze every bit of speed out of the machine continues all the way through the Pro 210: it uses a PowerPC 604e chip running at

210MHz rather than the more common maximum of 200MHz, and it boasts a hefty 1Mb of Level Two cache to boost the processor speed – 256K or perhaps 512K is the usual figure.

There's also a 3D RAGE card from ATI to accelerate your 3D graphics. The card speeds up any software which uses Apple's QuickDraw 3D system, which today includes practically every major 3D creative package, along with a growing roster of games from *Actua Soccer* (reviewed in MACFORMAT 46) to *Weekend Warrior* (MACFORMAT 50).

A 16-speed internal CD-ROM drive rounds off this impressive high-performance package.

■ Contact MCM on 0171 324 4104 for more details.

PowerCenter Pro facts

	CPU	Speed	RAM	Video RAM	Hard drive	Price
PowerCenter Pro	PPC 604e	210MHz	16Mb	2Mb	2Gb	£2,114

Price includes VAT. You'll have to buy your monitor separately.

Great software.

NEW
Now includes Apple
Internet Connection Kit

**Apple
System 7.5**

Latest release of the Mac operating system with enhancements to make Mac computing easier than ever! Packed with a wealth of



Mac OS 7.5
Not compatible with
Mac IIx, IIcx or SE30
Please see 7.5.5
details below.

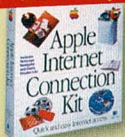
new capabilities for productivity, collaboration, printing, document appearance and multimedia etc. Now also includes fully integrated Internet access with the inclusion of the Apple Internet Connection Kit 1.2 (inc. Netscape 3.0) worth £45. Features new Extensions Manager, MacLink Plus, latest Open Transport, Cyberdog 1.2.1 (PowerPC) etc. (Available on CD or 3.5" floppies) Just... **£55**

**Apple Language
Kits**

Everything you need to easily create new documents in Arabic, Chinese, Japanese, Cyrillic or Hebrew as well as adding text to ANY Mac document. Switch between the computer's main language and the language of your chosen kit effortlessly. Language kits do not translate text, but facilitate easy input, edit and print etc. Only... **£89**



**Includes on line access
membership offer**



**Apple Internet
Connection Kit**

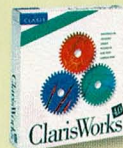
Integrated collection of Apple and third party software needed to connect directly to the Internet easily!

Perfect solution for Mac users who want

Internet access - today! Includes getting started manual and special Apple Guide on line help system which make it exceptionally easy to use. Only... **£45**

**GH 15TH ANNIVERSARY
1982-1997**

**Claris Works 4
Internet Edition**



All the features you'd expect from Claris Works - WP, Database, S/sheet, Charting, Drawing, Comms etc. But, not only do you get Works (srp £69) it also comes with... Home Page (srp £69), Internet Connection Kit (srp £45), Internet Yellow Pages and lots more too! Probably the best Office Package ever for your Mac. Only... **£89**

**Claris FileMaker
Pro 3.0**



The relational database designed to help YOU manage and share information. A really fast way to convert raw data into a fully working database both quickly and easily. Ideal for every small business and home user, yet perfect for educational uses too. Create easy to access personal libraries which can contain all of your information and standard forms etc. THE standard for your Mac! Just... **£159**

**Apple Network
Administrator Toolkit**



Ideal network administrator software allowing control of ALL Macs across the network, remote viewing of other Macs, remote control of networked Macs and central updating of files and programs on all the Macs across the network. Amazingly simple to use but providing a high degree of security and unsurpassed efficiency. Only... **£499**

The core of your Apple!

AppleSoft

- System 7.5.5 - Latest system software for users of Mac IIx, IIcx, SE30...£59
- At Ease 3.0 - Gives parents and teachers supervision control at school or home...£32
- AppleScript Scripter's Toolkit - Automate tasks across applications...£109
- HyperCard 2.3.1 - Information management using 'stacks' of cards...£89
- Personal Diagnostics 1.1 - Diagnose problems on your Mac easily...£69
- Media Toolkit 2.0 - Create dynamic multimedia projects easily...£325
- Internet Router TCP/IP - Connect Macs to TCP/IP networks/Internet...£315
- TCP/IP Connection 2.04 - Software to connect Macs to TCP/IP networks...£25
- TCP/IP Administrator 2.04 - Network protocols & drivers for client setup...£115
- IP Gateway 1.0.1 - Access Ethernet based TCP/IP services on the internet...£199
- AppleTalk Connection Kit 1.1 - Networking software solutions...£35
- AppleTalk Administrator 1.1 - Trouble shooting tools for AppleTalk...£155
- Remote Access Client 2.1 - Connect to remote Macs by modem...£39
- Remote Access Server 2.1 - Access Macs/Networks via modem...£129
- AppleShare 4.0.2 - 68k Macs (3.5" or CD) - File & print sharing...£899
- LocalTalk Bridge 2.0 - Bridges Macs on different Ethernet and LocalTalk networks allowing the sharing of peripherals such as printers etc...£89

CLARIS

NEW Claris Em@iler 2.0 - The easiest way to gather/transmit e-mail when using several different e-mail service providers and protocols from your Macintosh...£42

NEW Claris Home Page 2.0 - Creatively Design and Edit your own Web Pages easily...£69

- ClarisImpact 2.0 - Business graphics for every occasion...£95
- ClarisDraw 1.0 - Drawing, painting, image editing, text, presentations...£95
- Claris Organizer 2.0 - Complete contacts file, diary and personal organiser...£59
- Claris MacWrite Pro 1.5 - Advanced WP with graphical features...£45
- Claris MacProject Pro 1.5 - Project management - stay in control...£155
- ClarisWorks Templates - Home - Ready made documents for home use...£25
- ClarisWorks Templates - Small Business - Business form solutions...£25
- Claris Dictionaries - American, French, German or Spanish...£39



AppleSoftPLUS & ClarisPLUS Volume Licensing & Maintenance

Whether your company has 25 employees or 1000, you'll need a software licensing formula that's both flexible and saves you money.

Volume Licensing Agreement (VLA)...

AppleSoftPLUS VLA and ClarisPLUS VLA offer low purchase requirements and mix-and-match software selection - making them the perfect choice for small and medium sized companies.

Under VLA, you can licence as few as 25 units of Apple and/or Claris software at lower than the individual unit price. You can combine the products, platforms and even types (new, upgrade or competitive upgrade) to meet the 25 unit minimum.

Maintenance Programme (MP)...

Getting the highest return on your software investment and planning software budgets is simple with either the AppleSoftPLUS MP or the ClarisPLUS MP. That's because MP protects your software investment against the unknown costs of upgrades and updates - while at the same time keeping your business current with technology.

MP automatically provides updates to your software as new versions are released - without further cost during the two year enrolment term!

VLA Key Features:

- Individual titles cost less than normal single unit prices
- Low 25 unit minimum licences
- Mix-and-match from eligible Apple and/or Claris software
- Extra documentation and disk sets available (additional fee)
- Maintenance Programme option

MP Key Features:

- Keeps software current for two year period
- Protects software investment
- Mix-and-match from eligible Apple and/or Claris software
- Very low 25 unit enrolment minimum number

Ask for VLA or MP info-packs now!



If you would like further more comprehensive information, help or literature for any AppleSoft or Claris Software Product, please give us a call NOW.
Please see our main advert in this magazine for full conditions of sale. E&OE. All prices exclude VAT and are shown for business purchasers only. Consumers please ask for VAT inclusive prices.

gordon harwood computers

01773 836781

PICK UP THE PHONE AND ORDER TODAY FOR DELIVERY TOMORROW

SOFTWARE

AT THE CORE

OF YOUR MAC

SYSTEM

WE'RE EASY TO FIND, SO WHY NOT PAY A VISIT TO OUR SHOWROOM - Please see the map on our main advertisement and remember to check availability before making a long journey.

We accept most major Credit and Debit Cards and there is NO CREDIT CARD SURCHARGE!



For your protection all Credit Cards are fully Security Checked

OFFICIAL ORDERS...
We supply Central, Local Government and Education Departments along with Major PLCs

'FAST-FAX'...
on 01773 831040 for a Rapid Response to your Quotation or Order Requirements!

GH
**GORDON HARWOOD
COMPUTERS**

DEPT MAF/2 • NEW STREET

ALFRETON • DERBYSHIRE

DE55 7BP

Tel: 01773 836781

FAX: 01773 831040

e-mail: info@ghc.co.uk



Formula T2 and Top Gun controls



The smooth responsiveness of the Top Gun joystick could take your breath away.



The Mac's first steering wheel brings new realism to your racing games.

Mac owners like you bought four million games last year, proving there's a definite demand for fun on the Mac. With our growing appetite for games, ThrustMaster's introduction of two new game controllers for your Mac is welcome – especially when one device is a first for the Mac.

The Formula T2 is a full-size steering wheel you can use to speed round tracks in games like *IndyCar Racing*, giving you a more realistic Mac racing experience. You can fix the T2 base onto most desktops to secure it as you race, and use the T2's software to adjust any of the wheel's settings, adapting the wheel

to your racing style and the needs of the game. There's even a gear stick included.

You'll also get a pedal unit to place on the floor, giving an accelerator and a brake (just as well, really). You can use each pedal independently or work them together to attempt a power slide around tight corners.

The Formula T2 includes settings so you can use it with *IndyCar Racing* and *Nascar Racing* (both from Sierra), but you can adjust the T2's software to use it with any Mac racing game you like. The system costs £124.99.

ThrustMaster's Top Gun joystick takes its name from the film, star-

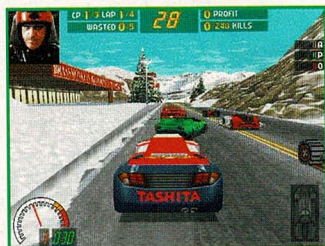
ring Tom Cruise, and is weighted carefully to enhance flight simulators and air combat games like *F/A-18 Hornet* and *Flight Unlimited*. It offers an aircraft-style grip with three firing buttons, plus a rocker switch to handle any extra tasks the games may demand. The Top Gun joystick costs £39.99.

■ **Contact:** ThrustMaster on 0118 978 7087 for details of both these controls.

Carmageddon

Here's a driving game for you to try your new steering wheel out on. *Carmageddon* is a long way from your typical racetrack simulator, though. With a style as likely to win as many detractors as fans, *Carmageddon*'s particularly black humour can't be ignored.

Viewed from a first-person 3D perspective like other racing games, the game is a drive to the finish;



Sophisticated 3D graphics make the experience of *Carmageddon*'s 36 tracks seem incredibly real.

but the gruesome twist is that you score bonus points by running over anything – or anyone – in your path. Not even cows are safe as you rampage through the 36 tracks, and the game encourages you to divert your attention away from the race to seek out bonus fields where unassuming farmyard animals await your bonnet.

You're also up against 25 vicious rivals for the racing crown; batter them into pieces before they get you, and you'll receive credits that you can swap for more aggressive features for your own car. The Mac-controlled drivers are intelligent enough to remember who did them in during the last race, so watch your back if you get too successful. Stainless Software, which also created the fondly-remembered and blissfully sedate *Crystal Quest*, has built a huge number of spectacular crashes and spills into the game. The tracks unfold across five varied

Not one for the easily offended, *Carmageddon*'s sure to kick up a storm when it's released.



The game gives you the chance to command a variety of nasty-looking vehicles in pursuit of pedestrians.



environments, from deserts to urban road circuits.

You'll see and hear the impact whenever you crash into something, with plenty of blood and intestines flying across the landscape. *Carmageddon* uses the principle of cathartic violence and takes it to new extremes. It's best suited for anyone with an indelicate disposition, and there'll be a mature

age rating as a result. You'll be able to decide what you think soon.

■ **Price:** £40. ■ **Out:** June.
■ **Requires:** PowerMac with System 7.1 and 16Mb RAM.
■ **Contact:** SCI on 0171 585 3308

Coming soon

Duke Nukem

Using the first-person 3D action style that made *Doom* and *Marathon* popular, *Duke Nukem* plunges you into a future Los Angeles as you fight for your life against a pack of human-animal hybrids. *Duke Nukem* promises to set standards for its use of a realistic 3D environment, and should keep the trigger-happy satisfied as well.

Quake

From the maker of *Doom*, *Quake* uses a full polygon graphics system to bring you new levels of full-blooded action. The graphics mean foes can get so close you'll be able to see the whites of their eyes without losing any detail; but if you let them get that close, you're probably dead anyway...

From only... £249!

If you could fit MACCELERATE! to a 100 metre sprinter...



You know what it's like...

When you're starting your Mac, loading a program or file, waiting for that Photoshop™ effect, or in fact doing pretty much anything... your computer doesn't feel as fast as it used to, does it? Its not become tired itself, but the demands of the latest OS versions and the newest applications keep getting higher and higher and slow your system down. And, if you've tried one, you'll know that today's Macs are a lot faster.

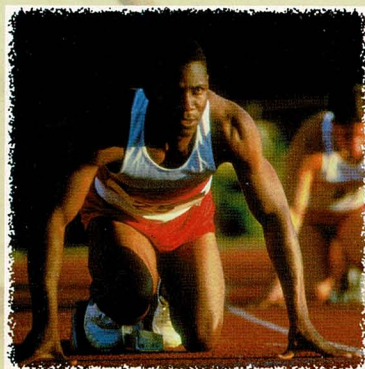
So, should you buy a new Mac now?

What is MACcelerate™?

Unlike many 'go-faster' upgrades which overspeed the standard processor, Maccelerate™ is a complete replacement for your Mac's original processor and daughterboard - it uses the new fast 604e CPU with 2 integral 32k caches. So, because the 604e is much more powerful than a 601 or 603, and by combining the extra horsepower it offers with the higher clock speeds of 150, 180 or 200MHz.

You can see from the charts that...

The performance gains are massive.



The current Olympic Record is held by Donovan Bailey who was timed at 9.84 seconds during the 1996 Olympic Games in Atlanta

The New
Olympic
Record would
be just 2.62
seconds.

Can I fit MACcelerate™ myself?

If you've never fitted an internal upgrade yourself, don't worry...

Your Mac was designed by Apple to be processor upgradeable and Maccelerate™ couldn't be simpler to fit. No soldering, no cables, no software to load (it simply requires System 7.5.3 or later), just plug Maccelerate™ in and reboot!

Simply fit to your Apple Macintosh
7300, 7500, 7600, 8500, 8550, 8600, 9500, 9600
or many compatible Macintosh OS
clones and re-boot!

Or, if you prefer, Harwoods
can fit yours for you.

MACcelerate™ Quality...

Designed and built by Europe's largest manufacturer of Motorola Processor cards, you can be assured of its quality and reliability. Get the best from your Mac, accelerate it now with MACcelerate.

Not all Processor Boards are Created Equal...

The MACcelerate™ range has two important features, not found on similar products, which are essential to maintain the highest standards of system reliability.

• PROCESSOR DECOUPLING CIRCUITRY (PDC)

Whilst the PowerPC 604e was designed to operate at 3.3 volts, Power Macintosh main circuit boards operate at 5 volts. Although the processor's I/O buffers can be run at 5 volts, this may decrease the processor's lifespan. Perhaps not such a serious problem for infrequent users, but crucial if the system is to be used regularly or even constantly (eg. servers etc.). MACcelerate™ operates its processor at the correct voltage - as specified by Motorola.

• PHASE LOCKED LOOP CLOCK SYNTHESISER (PLLCS)

We all know how a Macintosh may occasionally freeze for no apparent reason. Well, that's why MACcelerate™ incorporates a Phase Locked Loop Clock Synthesiser which ensures that system synchronisation on start-up is set to a more reliable fixed frequency between the main circuit board's upper and lower tolerances.

The result is a far higher standard of operational reliability than found when using boards that don't incorporate PLLCS circuitry.



Buy with Absolute Confidence...

Because we're so sure you'll be happy with MACcelerate™ you can now take up our offer to...

• TRY BEFORE YOU BUY

If you want to see just how fast your Mac can operate with Maccelerate, call in and our Apple Authorised Service engineers will install one, with no obligation to buy, so you can feel the speed for yourself. Just phone us in advance to make your appointment.

• MONEY BACK GUARANTEE

We're so confident you'll be pleased with Maccelerate that it comes with a money back guarantee* so that you can try one out safe in the knowledge that you can return it to us if you're not completely satisfied.

• PLUG-AND-GO

Maccelerate does not invalidate your Mac's warranty and full product support is included.

For a Motorola™ 604e PowerPC™ performance increase for YOUR system and ALL its applications... just 'Plug-and-Go'.

MACcelerate™ Specification, Performance and Prices

Photoshop 3.05 Gaussian Blur

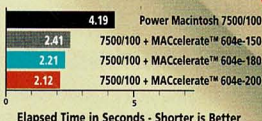
Test Picture: 1181 x 1671 pixels - 24bit



PERFORMANCE
GAINS
204% to
322%

KPT Bryce 2.0 Rendering

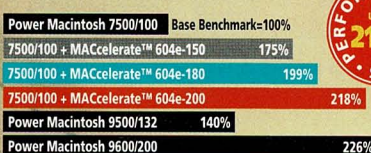
Test Picture: 480 x 360 pixels



PERFORMANCE
GAINS
74% to
198%

MacBench 3.0 Processor Performance Test

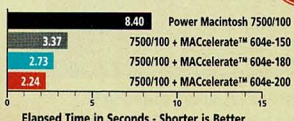
Test: Combined Floating Point and Processor Speeds



PERFORMANCE
GAINS
up to
218%

Photoshop 3.05 RGB to CMYK

Test Picture: 1181 x 1671 pixels - 24bit



PERFORMANCE
GAINS
249% to
375%



Earning a MacFormat Magazine Classic Award.

MACcelerate recently scored 91% in their review article. MacFormat said "...the MACcelerate is your ticket to first-class performance. Excellent".

Mac User



MACcelerate has just received a four and a half mice rating in Mac User which said "If you need speed, you have one of the processor upgradeable Macs, and you have a few hundred pounds to spend, then you could certainly do worse than buy a MACcelerate card!"

Why consider replacing your 7500? Add MACcelerate for a moderate cost and almost equal the performance of the latest 9600/200! Overall performance increases measured using the industry standard MacBench 3.0 application. Results are combined for the integral floating point maths co-processor and main processor. Longer is Better.

Point your web browser at Motorola's own web site...
<http://www.mot.com/SPS/PowerPC/products/semiconductor/chips.html>
to see why the 604e is the most powerful processor available for YOUR Macintosh desktop system.

150MHz MACcelerate™ £249 + VAT
New 604e with 2 x 32K Internal Cache

180MHz MACcelerate™ £349 + VAT
New 604e with 2 x 32K Internal Cache

200MHz MACcelerate™ £499 + VAT
New 604e with 2 x 32K Internal Cache

MACcelerate™ is distributed by Gordon Harwood Computers. Dealers please call for prices.

All prices exclude VAT and are shown for business purchasers only. Consumers, please ask for VAT inclusive prices. All Trademarks are acknowledged. Prices correct at time of going to press, E&OE.

*Maccelerate money back guarantee is for 14 days after purchasing direct from Harwoods and excludes carriage, repayment based on RRP on date of return.

Gordon Harwood computers

01773 836781

PICK UP THE PHONE AND ORDER TODAY FOR DELIVERY TOMORROW

VISIT OUR

SHOWROOM AND

SEE THE SPEED

FOR YOURSELF!

WE'RE EASY TO FIND, SO WHY NOT PAY US A VISIT. Please check availability before making a long journey.

We accept most major Credit and Debit Cards and there are NO SURCHARGES!



For your protection all Cards are fully Security Checked

ORDER...

By phone or fax using your credit/debit card or by post enclosing cheque/draft payment to "Gordon Harwood Computers Limited".

OFFICIAL ORDERS...

We supply Central, Local Government and Education Departments along with Major PLCs

DELIVERY...

Please add £7 for Standard 2-3 working days delivery or £10 for a FAST next working day service.



GORDON HARWOOD COMPUTERS

DEPT MAF/2 • NEW STREET

ALFRETON • DERBYSHIRE

DE55 7BP

Tel: 01773 836781

FAX: 01773 831040

e-mail: info@ghc.co.uk



Is it worth upgrading your old Mac, or should you just bite the bullet and buy a new one? Should they produce cheaper upgrades? Write and share your thoughts on Apple, MACFORMAT or anything Mac-related, and if your letter is published here you'll win your very own MACFORMAT binder. (Of course, you could turn to page 142 and order a binder, but a letter could win you an upgrade of your MACFORMAT storage hardware for just the cost of a stamp...)

192 today – again

I'm getting sick and tired of seeing the well-known error message –192, which means that the software is PowerMac only! I think it's time that I clear a few things up for software companies.

First of all, not everybody can afford a 200MHz PowerMac (needed for the game *Weekend Warrior*, reviewed in MACFORMAT 50) and I think everybody has the right to play such a game.

Second, the argument of software companies that "we had to make it for PowerMac because it's too complex for 68K Macs" stinks!

Share your views and win a MACFORMAT binder. Write to: Alex Summersby, AppleTalk, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW, e-mail macformat@futurenet.co.uk

Why don't they make it less complex so it runs on non-PowerMacs?

Third, there are more than 60 million people using a Mac and the total PowerMacs won't be more than a few million – 10, 11 perhaps but certainly not more – and are these people who use a PowerMac game fanatics? I don't think so. The real game fanatics won't be able to pay for a PowerMac (see Point 1).

So why not make great games for 68K Macs? If they can make them for non-RISC, inferior-graphics PCs I'm sure they can do that!

Fourth, I hope I am not missing out on games like *Civilization II* or *Broken Sword* or I'm really pissed!

I hope the MESA [Mac OS Entertainment Software Association – see *News*, MACFORMAT 50] will also think of the people who own 68K Macs! **Joris Schreuder**
Arnhem, The Netherlands

Oh dear. Broken Sword (previewed on this issue's Cover CD) will be Power-

Mac-only, like just about every new game. PowerMacs have been around for more than three years now, and Apple discontinued the last 68K Mac over six months ago. For developers of new software, this makes 68K Macs "obsolete technology". Yet clearly there is a huge potential market out there. What do other readers think?

Cruising the Keys

When in the **Desktop Patterns** Control Panel, hold [option] to set "the Utility Colour". This enables you to assign a pattern to various utilities such as the Calculator and Find File.

Andrew Ladd
via FutureNet

Anyone else found any keystroke shortcuts, neat tricks or hidden Easter Eggs? Send them to "Cruising the Keys" at the address at the top of this page.

PCD Maltron: correction

Your comments on PCD Maltron's ergonomic keyboard in MACFORMAT 47 unfortunately contain a couple of errors. The Maltron was originally conceived to replace QWERTY

as you state but the standard version is in fact to the QWERTY pattern as very few people can be bothered to learn the Maltron layout – despite the fact that the Maltron layout is 70% to 90% faster! The company sells very few Maltron layouts despite its advantages.

Your ergonomist suggests that the user should rest the heel of the hand when working but the keyboard is, in fact, designed to keep the arms parallel with the work surface. The heel of the hand is only dropped during thinking time.

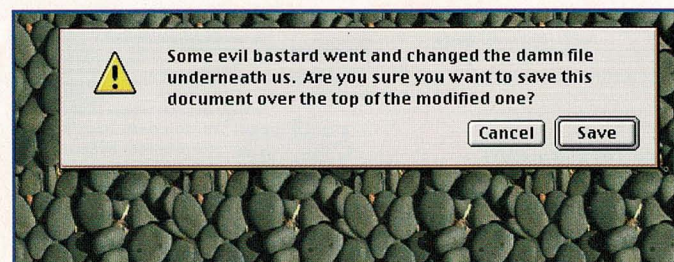
The standard keyboard does cost £440 with VAT, and the version with an integral trackball to eliminate the need for a wrist-twisting mouse is £510 with VAT. Sufferers from RSI, however, get a 10% discount on production of medical evidence of the condition.

Stan N Allen
pp PCD Maltron
Heath Technical Services
Thornton Heath, Surrey

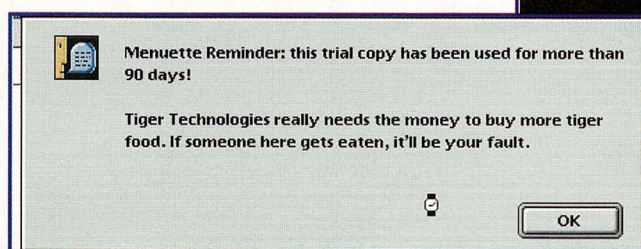
Our ergonomic expert confirms that keeping the arms parallel with the work surface is the ideal typing position, though we're not quite clear on how the Maltron's relatively high lip helps you



Silly Things Your Mac Says, number 494 in a series: above, from Lyn Gaffney of Brisbane in Australia, who got this message when trying to run a reader's contribution from a past MACFORMAT Cover CD... Has your Mac given you a Silly Message? Grab it by hitting [command] [shift] 3 and send it in to us on a floppy disk, or by e-mail with the word "Silly" in the subject line.



Dave Andrews of Sydenham in London got this "rather cheeky" message when he was trying something that, admittedly, you probably don't do every day: he'd opened the Internet Config program to change some settings but, before he'd saved them, also opened the Internet Config Preferences file with ResEdit. With the latter still open, he then went back to Internet Config and tried to save his changes. The message probably means no more than "Prefs file is being used by another application, and I'm a little worried about it..."



Feeling guilty about not paying your shareware fee yet? The amusingly heart-rending reminder message above was sent in by Robbie Bain of Stromness, Orkney.

achieve this at a conventional office desk – and a mouse, properly used, should involve less wrist-twisting than a trackball. If you missed our ergonomic tests of input devices, see page 142 for information on how to order a copy of *MACFORMAT* 47, or just the article by fax.

Crafty cheats

I found your demo of *WarCraft II* on the *MACFORMAT* 49 Cover CD and cracked some cheats. Before typing them in you should press [enter].

UPGRADE – upgrades everything to maximum.

CASH – gives you a bundle of gold, lumber and oil.

OIL – gives you a load of oil.

MAGIC – gives you spells.

Once you have typed the cheats in, press [enter] again.

Andrew Brown (age 12)
Kettering, Northants.

Anyone found any other cheat codes or other game-busting tips? Send them to "Gamebusters" at the address opposite.

System 8 Wish List

Here are a few ideas for Mac OS 8:

1. I think it would be a good idea if

What we have here (right) is a very addled Mac. Spooky, you might almost say. The grab was sent in by Barry Smith of Newport, Isle of Wight. "Trust no one", indeed.

IBM Style Error Message:
Err# 3576804: No 4bit gDev Avail

Macintosh Error Message:
Sorry, RoadKill is a 16 color game. Please use the "monitors" control panel to set your screen to 16 color (4 bit) mode and open RoadKill again.

(Aren't you glad you have a Macintosh?)

you could drag windows to the trash. This is useful if, like me, you are in the habit of closing windows when you open another one and don't like going all the way back through folders and folders just to get rid of one single 2K file.

2. It may sound stupid but, after all these years, is there not a single way of disabling Extensions and Control Panels without restarting? Apple, take heed.

3. You shouldn't have to choose **Get Info** to paste a new icon onto a folder; you should just have to click on the icon and choose **Paste**.

manently remove these items? This command cannot be used on items in the Wastebasket. \$Preparing to empty th

Cancel

OK



The control panel "Memory" cannot be used now, because not enough memory is available.

OK

Above: probably perfectly logical, but this message certainly sounds wrong... And left: a nice piece of gratuitous PC-bashing by the authors of a game called *RoadKill*. (It would be churlish of us to suggest we'd appreciate the joke even more without the typographical error...) Both of these were sent in by Hugo Jones of Cheltenham in Gloucestershire.

4. Last and probably least, when the Macs running System 8 come out they should give them yellow cases already so that after a few years they don't look dirty!

Daniel Binks
Oldbury, West Midlands

That's what we like to hear. Really practical suggestions. Any more?

Useless advice?

Useless advice from the *Claris Home Page* manual:
"If you do not yet have access to

the World Wide Web, you can find a list of some Internet Service Providers at the *Claris Home Page* Web site."

That aside, if you want to be a MacEvangelist you can order loads of free videos, CD-ROMs and brochures illustrating why Macs are better than Windows-machines from: <http://www2.apple.com/whymac>.

Roger Houghton
Bath, via FutureNet

Anyone for a series on *Silly Things the Manual Says?* Or is that too easy? **MF**

Get 'em young and they're yours for life...

A letter some months ago regarding Macs in schools (*MACFORMAT* 44) struck a chord with me. I was so frustrated with the dominance of the PC mentality that I simply bought a Mac for my son's primary school and then catalogued their reference library on it using *HyperCard*. The Mac is in use every day alongside PCs "bought" with tokens from a promotion run by a major retailer. If you really want to get Macs into schools, do it yourself!

The absence of Macs in any number is the symptom of a far deeper malaise which Apple will have to address. I have a friend who is the Headteacher of a small rural primary school. He is also a Mac addict and chose Macs for his classrooms. He had great difficulty convincing the local authority IT advisor that Macs were the best for the location. His efforts at introducing top-of-the-range business standard hardware and software directly into the

classroom were light years ahead of the said IT "expert". This is the crux of the matter: the decisions about which equipment to use are often out of the hands of the individual headteacher or IT specialist. Those that can't, teach; those that can't teach, teach teachers to teach; those that can't teach teachers to teach, become PC gurus. It is these advisors that need to be convinced, not the teachers.

Apple really needs to consider the education market very carefully. Primary age pupils with access to PCs become secondary pupils who are familiar only with PCs, who in turn become PC purchasers. When they eventually buy for their family they will choose... another PC. The best advert for a Mac (as your own comments have suggested) is to put it alongside a PC. Apple would do well to dust off its education initiative and get into schools.

A further example of Apple lethargy is

evident at Legoland in Bilund and Windsor, where Macs are used with their Technic™ experiments. Thousands of children a year (and their parents) are going to be using those machines and will ask, as I did, where the interface can be purchased. I have yet to see it advertised anywhere. What's wrong with Apple? It is that they just fail to appreciate the winners they keep producing?

Peter Weston
Deganwy, Conwy

The Technics kits are at least on sale on the spot, in the *Dacta Workshop* in Legoland (see our report in *MACFORMAT* 38). Any further thoughts about Macs in education? We'll pass them on to *Xemplar*, the joint venture set up by Apple and Acorn to cater specifically for the needs of the education market, and invite its comments in a future issue of *MACFORMAT*.

The **UMAX**

APUS 2000AV

Impressive Specification 32Mb RAM, 1.2Gb hard drive, 8 x CD Rom, 2 PCI slots and a PowerPC 603e processor at 160Mhz.

QuickDraw 3D Acceleration which increases QuickDraw rendering rates to SIX times faster than a Power Macintosh 9600 and can capture still images or QuickTime movies from videotape or camcorder to place in your documents or multimedia presentations.

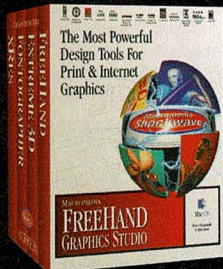
QuickDraw 2D Acceleration which supports display resolutions up to 1152 x 870 and 16.7 million colours.

Connection to any TV screen allows you to play your presentations, movies or latest QuickDraw 3D games on the big screen.

CD-quality SRS 3D surround sound stunning sound quality to match the video capabilities.

Surf the Internet with a speedy 33.6 kbps fax, voicemail and data modem plus 30 days FREE Internet access.

Upgradeable Processor in under five minutes you can upgrade the speed of your machine to 200Mhz, 240Mhz or faster...



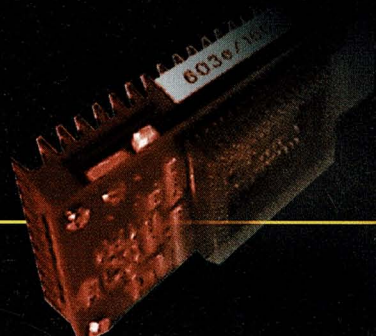
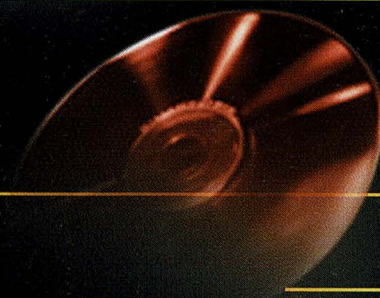
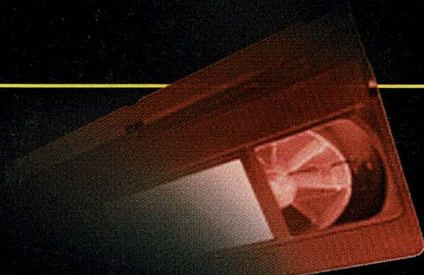
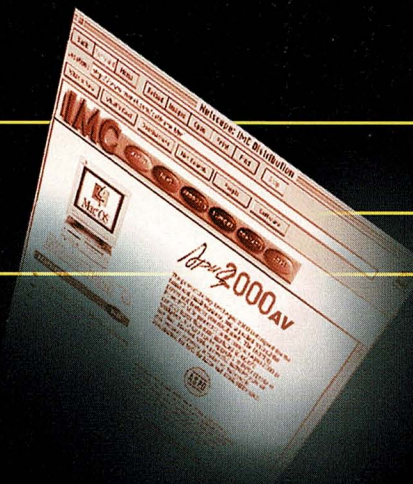
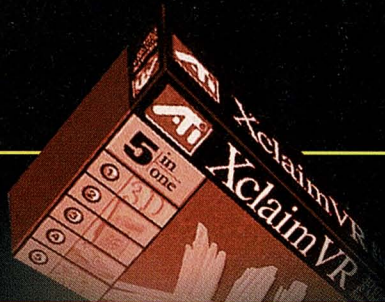
PLUS

Included FREE with all Umax Mac™OS computers is Macromedia Freehand Graphics Studio 2, ClarisWorks, FWB CD-ROM, MicroMat TechTool Pro, FaxSTF + Front Office, Internet Ready CD and FWB Hard Disk Toolkit.

UMAX
U GET
MORE

UMAX

For **more** informa
Apus 20



All this for only

£975*

**Apus wins MacWorld 97
Award for Best Solution**



more than just a Macintosh™

All prices excluding VAT
*Price does not include monitor

tion on where you can buy this 00AV call the Umax Hotline on **01344 871329**



Mac upgrades





Transform your Mac!

Today's advanced Mac OS and the applications that run under it require increasing amounts of power and memory. Lindsay Bruce shows you how to take your Mac into the next millennium.

The human race's quest for power and glory is never ending and is nowhere more blatantly obvious than in the world of computing. In the last 13 years, the Mac has evolved from little more than a WYSIWYG (what you see is what you get) word processor into a multimedia powerhouse. With today's software you can do anything virtually – pun intended.

The cost of such rapid progress, though, is that some people will be left behind, and unless you have a very understanding bank manager or are boss of a privatised utility, this means you. You may want to open your documents faster, branch out into exciting new technologies, or just want your Mac to start up quicker than the kettle will boil. For whatever reason you crave more power, you have two options: buy a newer Mac or upgrade the one you've got. The first is the simple option but has the drawback of costing serious readies. The second one, now what does that entail?

The answer to that question depends on your Mac and what you want to do

with it. If you just want to run more applications at once or handle bigger documents, then upgrading your Mac's memory is the solution and an easy one at that. If you want to be able to use a bigger monitor or display more colours on screen, then upgrading your Mac's Video RAM or buying a graphics card will do the trick. Storage? Add an extra hard drive. If you want more power, on the other hand – ah, well, that's trickier and it's going to cost you.

No upgraded Mac will ever be as fast as a brand new, off-the-shelf Mac. The reason is simple: old technology has its limits. If you're prepared to settle for being just a little bit quicker, then upgrading an existing Mac is a cheaper alternative to buying a new one. Besides, why junk a perfectly good Mac?

Upgrade? Bah humbug!

You might wonder if it's worth upgrading your Mac. If it does all that you need it to do, well, why bother? Well here are two sobering thoughts: the PowerPC 601 processor found in first-generation PowerMacs has been discontinued by Motorola, which means PowerMac upgrades for 68K Macs are now very rare. In fact, the 603 and 604 chips are also well past the event horizon and on their way to ➤

Contents

Inside your Mac	34
Processor upgrades	35
Expand your memory	37
Upgrade your hard drive	42
Expand your Mac	43
The software alternative	45

DIY and your Mac's warranty

All Macs, with the exception of compact models such as the Classic, SE, SE/30 and Plus, are very easy to upgrade and you can do the upgrade yourself. As long as you take basic precautions, you shouldn't have any special difficulty. When poking around the inside of your Mac, always make sure it is unplugged and switched off, and that you are wearing an anti-static wrist strap (available from Maplin, 01702 554000) to

prevent stray static electricity damaging the Mac's components.

There is one problem doing an upgrade yourself: you'll invalidate your Mac's warranty. Only an authorised Apple service engineer is allowed to fit an upgrade to your Mac. The chances are, though, that if you're thinking of upgrading your Mac, the warranty probably ran out long ago, so this isn't an issue. You should bear two things in mind,

though: if you fit an upgrade yourself and by some bizarre stroke of bad luck knacker your Mac, the repair bill will be big; if an Apple engineer knackers it, he'll have to cough up for the repairs. The other thing to think about is your own technical expertise. If you can tell one end of a screwdriver from the other then you'll probably manage okay; if not, then calling in a professional would be a good idea, if only for peace of mind.



Mac upgrades

extinction. Even the current chips, the 603e and 604e, are getting long in the tooth and will probably be replaced within a year. Secondly, the all-new System 7.6 requires a minimum of a 68030 processor. Mac OS 8.0, due in the UK mid-September, will require a minimum of a 68040 or 68LC040 processor. This means that these two System software upgrades are the end of the road for some 14 million Macs worldwide. Thereafter, it's bug fixes only and no new

System software. Application development will, of course, continue. So, if you want to run the latest software, you'd better start saving for a brand new PowerMac, or seriously consider upgrading your existing machine.

Power to the people

All Macs are upgradable – to some extent. All Macs can have their memory upgraded, all will support extra SCSI

devices or expansion cards, and a lucky few can have their processors upgraded. Unfortunately, because all Macs differ, there is no single upgrade solution for them all. You may have to use a combination of upgrades to squeeze every last ounce of power out of your machine.

Before you start, though, you need to know what parts can be upgraded and what effect such upgrades will have. Let's take a look at the insides of your Mac and find out.

Inside your Mac

Which parts of your Mac are upgradable? The answer depends on the Mac you have, but you will probably be surprised at what you can bolt onto your existing machine. The illustration below of a PowerMac's motherboard shows the main parts you

can upgrade or expand, ranging from the processor to memory, to expansion slots that enable you to expand or enhance your Mac's capabilities.

Hard drive

The one thing not detailed below is

storage space, which comes most commonly in the form of the hard drive, which is used to store data permanently. Upgrading your existing hard drive to a larger one means more storage space and faster access to it. All Macs support SCSI externally, and most will support extra drives internally. See page 44.

NuBus or PCI slots

These aren't used for upgrades as such, but they enable you to expand your Mac's capabilities by adding cards that complement your Mac's own hardware rather than replace it. Typical examples are graphics cards for connecting monitors, internal modems, and video cards for digitising sound and video. NuBus is found in older machines, while PCI is the sole reserve of the newer PowerMacs and is around three times faster.

RAM cache slot

This is found in most PowerMacs, clones and the odd 68K Mac.

It speeds up your Mac's processor by storing frequently-used data from RAM. The larger the cache, the better the processor performs. It can speed up your Mac by as much as 15%.

Processor

The "brain" of your Mac. Upgrading the processor is the most effective way of boosting your Mac's performance. Processor upgrades come in two forms: daughterboards (shown here), found only in PCI PowerMacs, and accelerator cards, which plug into a PDS (Processor Direct Slot) and bypass the existing processor.

Video RAM slots

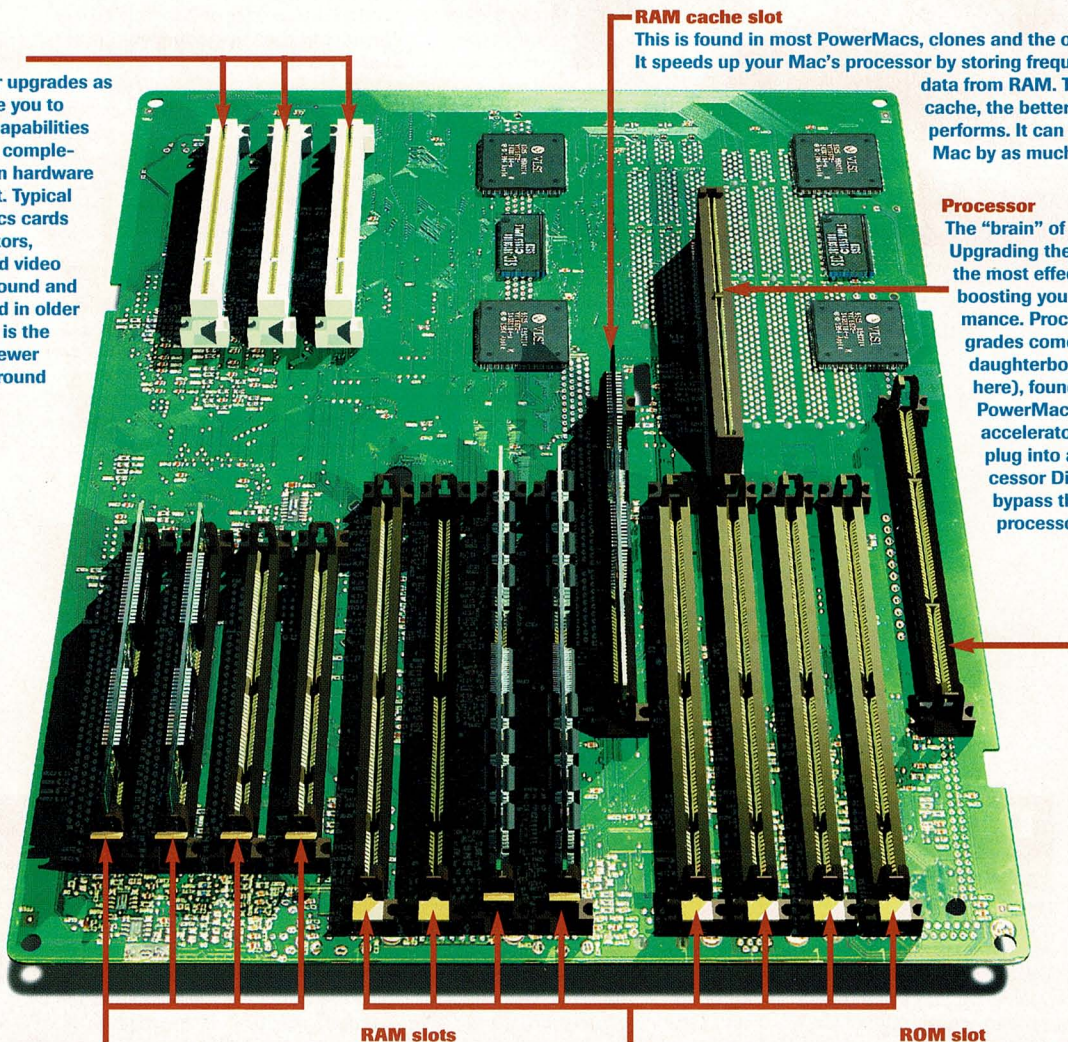
This is memory used to map the screen on your monitor. Upgrading this enables you to display higher resolutions and more colours. If your Mac doesn't have any VRAM slots, your only option is a graphics card (see page 43).

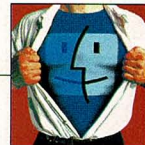
RAM slots

Your Mac's main memory is used to run software and store documents you are working on. All Macs can have their RAM expanded – to what extent depends on which Mac you have and how many RAM slots it's got.

ROM slot

You'll find this in all PowerMacs and some 68K machines. This is used solely by Apple to revise the information held here for different machines and can't be upgraded.





Processor upgrades

The processor is the heart and soul of your Mac, and replacing it with a faster one is the most effective way of speeding up your computer. The processor is responsible for every function your Mac carries out, including running the System software and applications, retrieving data from memory and the hard disk, handling input from the keyboard and mouse, and preparing data to be displayed on screen. If you update your processor, all of these functions will move faster.

Since 1984, the Mac has used seven different processors. These are split into two groups: the 68K series (often referred to as 68K) and the PowerPC series, both of which are made by Motorola. In order of power and release date, the 68K series comprises the 68000, 68020, 68030, and 68040. Of these, the 68030 and 68040 are most widely used, each accounting for 12 out of the 31 68K-based desktop Mac models that were made between 1984 and 1996. The PowerPC chip first appeared in a Mac in 1993 in the form of the 601 processor. More advanced chips followed, namely the 603 and 604. Faster variations of these last two chips are used in current desktop Macs – the 603e and the 604e.

Closely tied to the processor is the clock, and this is what makes your Mac tick, literally. Every instruction the processor carries out is synchronised with the clock. It is your Mac's heartbeat, regulating the flow of information through the machine. The faster the clock speed, the faster that information moves. Clock speed is measured in megahertz (MHz), one million cycles per second. The first Mac, the 128, had a clock speed of 8MHz, eight million cycles per second. Most current Macs run at 200MHz or above.

Bear in mind that upgrading your Mac's processor will not necessarily make it as fast as a new Mac. Many other factors affect the overall speed of your Mac, such as how fast the motherboard runs and the type of memory it uses. So, with this in mind, what types of processor upgrade are out there?

PCI PowerMac daughterboard

Until a couple of years ago there was no standard for processor upgrades on the Mac. Apple didn't have a common upgrade policy, so few Macs were designed to be processor upgradable. Upgrade products, whether from Apple or other companies, were designed to fit only a few machines in the Mac range. All this changed, however, with the advent of the PCI PowerMac, and many of these machines have the processor mounted onto a daughterboard, which can be upgraded as faster processors come out.

Fitting a faster processor is the most effective way to upgrade your Mac, but there are many different ways of doing this. We look at the options.

The majority of new Macs and clones use this design.

To understand which machines are processor upgradable and which are not, we need to go back a couple of years to when Apple developed the PCI PowerMac. Apple developed three motherboard designs, and these form the basis of all Apple and clone manufacturer machines. Of these, Tsunami is the high performance motherboard – it's very fast and highly expandable, designed for the most powerful of Macs. Alchemy is slower, less expandable, and designed for use with the 603e processor; it's mainly for home Macs. Finally there's Tanzania, a stripped-down motherboard that uses the cheapest of components to keep costs to a bare minimum.

Tsunami has a standardised daughterboard design, the 604e card that's used in PowerMacs, PowerTowers, and Pulsars, which – in theory – is interchangeable. Alchemy doesn't have a standard daughterboard design, but it can support one. Apple's Alchemy-based PowerPC Performas don't have daughterboards, but Power Computing's PowerBase and Umax's Apus ranges do.

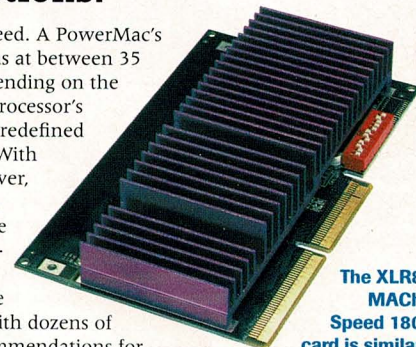
Since no standard design was set up, the clone manufacturers have come up with their own. Umax already sells upgrades for the Apus range, and Power Computing is expected to release upgrades for its PowerBase range. All Tanzania-based Macs (the PowerMac 4400 and Motorola's StarMax range, along with smaller clone manufacturers such as Computer Warehouse) have either a 603e or 604e processor soldered directly onto the motherboard and so are not upgradable.

If you own a Umax Pulsar, your Mac will accept a second processor daughterboard, making it very cheap to upgrade to an MP machine. The second slot only accepts Umax cards because the Pulsar uses a special design. The Gemini series of second processor cards should be out by the time you read this, and will be available in 180 or 200MHz 604e versions. At the time of writing, UK pricing had not been fixed, but they are likely to be around the same price as equivalent daughterboard cards (about £600).

XLR8 MACH Speed 180

Like all PCI PowerMac daughterboards, this card will plug into your 7500, 7600, 8500, 8600 or 9500, giving it an instant speed boost. The MACH Speed 180 is built around a 180MHz 604e processor, but it has the unique feature of having a

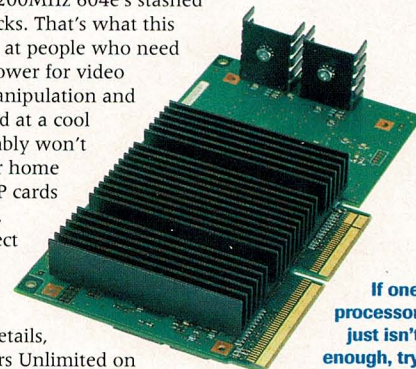
variable clock speed. A PowerMac's motherboard runs at between 35 and 50MHz, depending on the model, and the processor's clock speed is a predefined multiple of this. With this board, however, you can specify a bus speed and the processor's multiplier via a set of DIP switches. The manual comes with dozens of presets and recommendations for most Mac models. With a faster bus speed, your Mac could leave similar spec machines trailing in the dust. For more details, contact Computers Unlimited on 0181 357 5857.



The XLR8 MACH Speed 180 card is similar to Apple daughterboards but enables you to fine-tune the Mac's bus and processor speeds.

DayStar nPower 400

DayStar has long been associated with Mac upgrades, but did you know that it developed the multiple processing technique used in MP Macs such as the 9600/200 MP? It also wrote the MP libraries that are part of System 7.6. Now you can buy an MP daughterboard for your Mac from DayStar. Imagine having not one but two 200MHz 604e's stashed in your Mac's slacks. That's what this card is. It's aimed at people who need every ounce of power for video editing, image manipulation and 3D modelling, and at a cool £1,644 you probably won't be buying one for home use. However, MP cards will drop in price, and you can expect to see other companies producing them soon. For more details, contact Computers Unlimited on 0181 357 5857.



If one processor just isn't enough, try two. DayStar's nPower card has two 200MHz 604e's for blistering performance.

Processor accelerators

If you have an older Mac, the choices for upgrading are much more limited. DayStar used to produce PowerPC upgrade cards for the Mac II range and many Performas and LCs, but all of these have now been discontinued. US upgrade manufacturer MicroMac, among others, has plans to bring PowerPC upgrades for many older Macs to the market in the coming months, but for now your only choice is 68K upgrades and accelerators. Most of these plug into the PDS (Processor Direct Slot) on the Mac's motherboard. The PDS is linked directly to ➤



If you have a Performa 630, you can swap out your existing 68LC040 processor for the full 68040 which has a built-in FPU.

effective. The new CPU is constrained by the PDS that it's plugged into and its components, which were all designed to operate at slower speeds. This means that a 40MHz 68040 upgrade, for example, will not make your Mac anywhere near as fast as a machine originally based on the same configuration.

Processor swaps and FPUs

A few Macs can have their processors directly swapped out for new ones. This

the processor and enables a faster CPU to take control of the Mac motherboard. However, the PDS differs from Mac to Mac, and you have to buy a board specifically for use with yours.

Because older Macs don't have the open architecture that today's machines do, upgrades are less

sounds at least as efficient as a daughter-board swap, but in practice this is a long way from the truth.

The 68K series of processors are kitted out with different pin-outs and instruction sets, so you can't directly swap one processor for another. The only way to swap different processors used to be to put the new one on a plug-in board with its own cache memory, ROM chip and additional controller chips. This type of upgrade has all but died out, mainly because it is quite expensive and can't compete with the ever-falling price of the far faster PowerMac.

However, a few machines, such as the Performa 630, can have their 68LC040 processors replaced with 68040s (the 68LC040 doesn't have a built-in FPU, the 68040 does). Likewise, the LC and LCII accept plug-in FPUs that supplement the main processor. An FPU (Floating Point Unit) handles mathematical calculations and speeds up your Mac in this area by vast amounts. It won't make your Mac any faster in day-to-day use, but it will enable you to run programs such as spreadsheets and 3D applications like MetaTools' Bryce. (Like the 68040, all the PowerPC processors have FPUs built in.)

Clock chipping

This process involves ramping the processor's clock speed up to a machine's limits. The craft of clock chipping started on ageing Mac IIs and Quadras. Someone found a way to do it without hacking at the Mac motherboard with a soldering iron, and soon a rash of clock-chipping accelerators appeared on the market. These have all but disappeared, partly because newer Macs are already upgradable enough, but also because clock chipping is far from a precise science.

A Mac's components, not least the processor, are engineered to work within a set of tight operating limits. PowerMacs are best suited to clock chipping because the components have a greater margin of tolerance, and it's this safety margin that clock chip accelerators exploit.

Pushing a Mac to its limits can shorten its life-span and cause it to behave erratically because you're pushing it beyond what it's supposed to do. Clock chipping may boost your Mac's speed by between 15% and 40%, depending on the model concerned, but it's a last-ditch approach to squeeze more life out of an ageing machine, and not one we'd recommend.

Which upgrade for your Mac?

Here's our guide to upgrades currently available in the UK. Prices may vary from dealer to dealer.

PCI PowerMac daughterboards (7300, 7500, 7600, 8500, 8600, 9500, 9600 and equivalent clones such as Pulsars and PowerTowers)

Card	Description	Price	Contact
DayStar nPower 360	Dual 180MHz 604e MP card	£1,527	Computers Unlimited
DayStar nPower 400	Dual 200MHz 604e MP card	£1,644	Computers Unlimited
Maccelerate 150	150MHz 604e daughterboard	£293	Gordon Harwood Computers
Maccelerate 180	180MHz 604e daughterboard	£411	Gordon Harwood Computers
Maccelerate 200	200MHz 604e daughterboard	£587	Gordon Harwood Computers
PowerMaster 604/150MHz	150MHz 604 daughterboard	£429	MacRapide
PowerMaster 604/180MHz	180MHz 604 daughterboard	£611	MacRapide
PowerMaster 604/200MHz	200MHz 604 daughterboard	£747	MacRapide
PowerMaster 604e/225MHz	225MHz 604e daughterboard	£897	MacRapide
XLR8 MACH Speed 180	180MHz 604e daughterboard	£434	Computers Unlimited
XLR8 MACH Speed 200	200MHz 604e daughterboard	£622	Computers Unlimited
XLR8 MACH Speed 225	225MHz 604e daughterboard	£822	Computers Unlimited

Processor accelerators

Card	Description	Price	Macs	Contact
MicroMac Multispeed	32MHz 68030	£294	Plus, SE, Classic	MacRapide
MicroMac Performer	16MHz 68030	£83	Plus, SE, Classic	MacRapide
MicroMac Performer Pro	32MHz 68030 + FPU	£177	Plus, SE, Classic	MacRapide
MicroMac Diimo	50MHz 68030 + FPU & cache	£259	Mac II, IIx, IIcx, IIci, IIsi, IIvx, IIvi, LCIII, SE/30	MacRapide
MicroMac Thunder	32MHz 68030 + FPU	£83	LC, LCII	MacRapide
MicroMac ThunderCache	32MHz 68030 + FPU & cache	£200	LC, LCII	Mygate
MicroMac ThunderCache Pro	50MHz 68030	£376	Color Classic, LC, LCII	MacRapide
MicroMac Carrera 040	50MHz 68040	£376	Mac II, IIx, IIcx, IIci, IIsi, IIcx	MacRapide
Sonnet Quadbooster 040	40MHz 68040	£376	Centris 610	MacRapide
Sonnet Quadbooster 050	50MHz 68040	£423	Centris 610, 650, Quadra 605, 610, 650, 700, 800, 900	MacRapide
MicroMac Marathon	32MHz 68030	£376	Mac II	MacRapide

Replacement processors & FPUs

Chip	Price	Contact
FPU for LC and LC II	£30	Mygate
FPU for Classic II	£30	Mygate
25MHz 68040 for Centris 610 and LC45	£89	Mygate
33MHz 68040 for Performa 630	£117	Mygate

Contact details

Computers Unlimited on 0181 357 5857
Gordon Harwood Computers on 01773 836781
MacRapide on 0181 381 4810
Mygate on 0800 018 1424



Expand your memory

Apart from the processor, memory is the most critical part of your Mac. Find out what it's used for, the different types involved, and how to upgrade it with our special guide.

Without memory, your Mac can't run System software or applications. Adding more memory to your Mac means being able to run more sophisticated software, handling larger documents and running more applications at the same time. Extra memory can also have a positive effect on your Mac's overall speed, but the biggest speed gain comes in terms of productivity. Just think of the time you can save in launching and quitting out of applications by having enough memory to be able to run them all at the same time. And if you're sick of grey bars, more memory means less disk thrashing when *Photoshop* is forced to find temporary storage on your hard disk to handle large graphics files.

Memory on the Mac comes in many different guises. First, there's the memory used to run applications and System software, known as RAM; second, there's memory used to store frequently used data from RAM, the RAM cache; and third, there's memory used to prepare images displayed on your monitor, Video RAM (VRAM). All Macs can have their memory expanded, it's just a question of how far you want to go. Let's deal with the most common memory first: RAM.

Random Access Memory is your Mac's workspace, where it stores data it needs to process. This could be in the form of System or application instructions, or the documents you are working on. All Macs – barring the original 128K and the 512K that followed it – can have their RAM expanded by plugging memory cards into sockets on the motherboard. The number of slots varies between Macs, as does the type of memory card used. How much RAM your Mac can take in total depends on the number of slots it has and the type of memory module it accepts.

Many older Macs, such as the IIsi, can only hold between 32 and 68Mb, with the occasional model coping with up to

128Mb of RAM. This changed with the PCI PowerMac, which can accommodate a staggering amount of memory. The 9500 and 9600 will accept 768Mb of RAM, while some clones can take 1.5Gb. Even this pales into insignificance when you consider that the Mac can theoretically deal with 4Gb of RAM. Apple just hasn't built a motherboard big enough to take it yet.

Your needs are probably quite a bit more modest than this, but the trend is ever upwards. Four years ago, it was possible to run the Mac OS in less than a megabyte of memory. In September, Apple will release Mac OS 8.0 in the UK, and the figure being talked about by pundits is 16Mb minimum, 32Mb recommended. In the meantime, System 7.6 requires at least 8Mb. Application requirements have also ballooned – the typical requirements for most software is now into double figures.

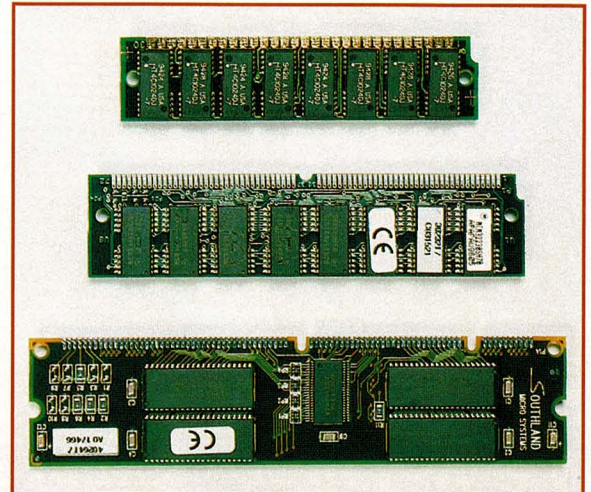
Types of RAM

For a long time Macs used 30-pin SIMMs (Single In-line Memory Modules) for memory expansion, but this changed a few years ago with the arrival of more powerful Macs such as the Quadra 840av. These used 72-pin SIMMs which could accommodate more memory chips on a single board. This paved the way for Macs that could accommodate hundreds of megabytes of memory, and they were carried through to the first generation PowerMacs. However, come 1995 and the memory standard changed again, this time to 168-pin DIMMs (Dual In-line Memory Modules), with the release of the PCI PowerMac. This enables these machines to access even more memory, even faster.

To confuse matters, you can now buy two types of RAM, fast-paged or EDO-RAM. The vast majority of Macs use fast-paged RAM, but some newer machines (such as the PowerMac 4400 and Motorola's StarMax) use EDO-RAM which consumes less power and runs at a lower voltage (3.3 volts instead of 5). If you're unsure about which type to buy, consult your Mac's manual and your dealer.

Video RAM

Expanding the VRAM in your Mac is a little more complicated, if only for the fact that some Macs can't have their VRAM expanded. For a while Apple experimented with using either main RAM for video display (as in the Mac Iix); using built-in video circuitry (the

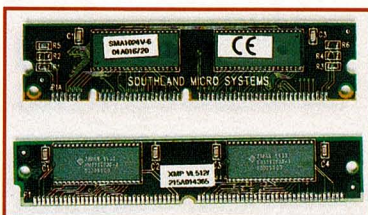


The type of memory module you use to expand your Mac's RAM depends on the Mac you have. From top to bottom; 168-pin DIMM (PCI PowerMacs), 72-pin SIMM (Quadras and first-generation PowerMacs), and the 30-pin SIMM (Mac II's and LCs).

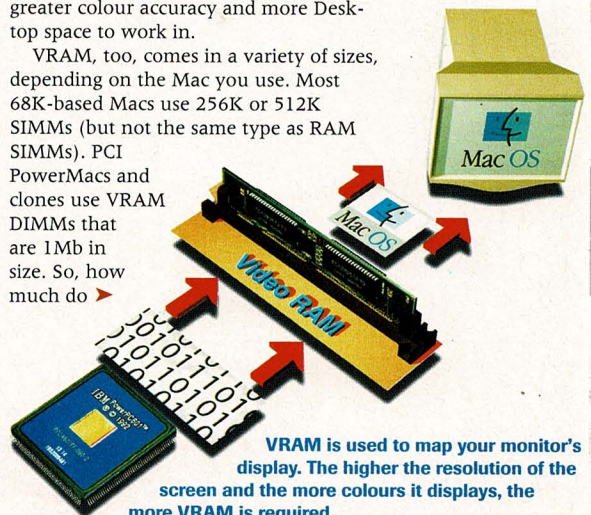
Performa 630 along with countless others); or not putting any VRAM in at all, so you had to buy a graphics card (the Mac II). All three of these factors mean that you can't expand some Macs' display capabilities, unless you buy a graphics card to fit into one of the Mac's expansion slots (see page 43).

If your Mac can have its VRAM expanded (see the table on page 39), it's a worthwhile investment. VRAM is used to map the images you see on-screen – the more memory your Mac has to do this, the more detail it can display. Adding VRAM means you can display more colours at higher resolutions. This means greater colour accuracy and more Desktop space to work in.

VRAM, too, comes in a variety of sizes, depending on the Mac you use. Most 68K-based Macs use 256K or 512K SIMMs (but not the same type as RAM SIMMs). PCI PowerMacs and clones use VRAM DIMMs that are 1Mb in size. So, how much do



For some Macs, VRAM comes in the form of memory modules that plug into your Mac's motherboard. If your Mac doesn't support these, then you'll need to buy a graphics card instead – see page 43.





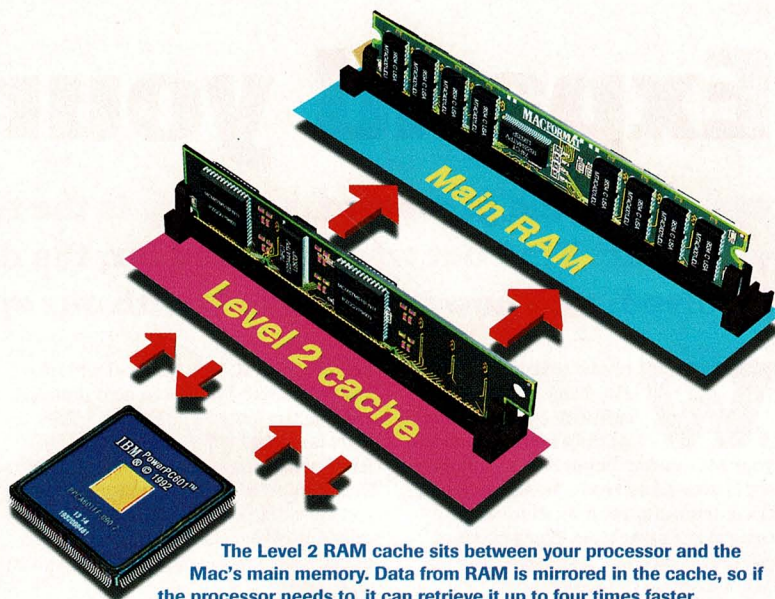
Free memory

If you can't afford real RAM, try using Virtual Memory, which uses a portion of hard disk space as memory. You can access this in the **Memory Control Panel**. It's a lot slower than real RAM, but it will enable you to run more memory-hungry programs.

you need? There is an equation you can use to work it out. Without getting into major technical detail, your Mac uses three common colour settings; 256 (8-bit), thousands (16-bit), and millions (24-bit). The bit number refers to how much memory your Mac needs to display any given colour within that colour mode per pixel on-screen. So, to display 256 colours on a standard 640 x 480 pixel screen, your Mac needs $8 \times 640 \times 480$ bits of memory – roughly 300K. To display thousands of colours at 1,024 x 768 your Mac needs $16 \times 1,024 \times 768$ – about 1.5Mb of memory.

The Level 2 cache

Today's high performance processor is so powerful that the rest of your Mac could struggle to keep up with it – this is certainly the case with PowerMacs. The real problem is the bottleneck which occurs when you try to retrieve data from RAM through a motherboard that is substantially slower than the processor. For this reason, all PowerMacs have, or include provision for, a Level 2 cache. This is a small area (256K, 512K or 1Mb) of very high speed memory used to store data that's frequently used by the processor.



The Level 2 RAM cache sits between your processor and the Mac's main memory. Data from RAM is mirrored in the cache, so if the processor needs to, it can retrieve it up to four times faster.

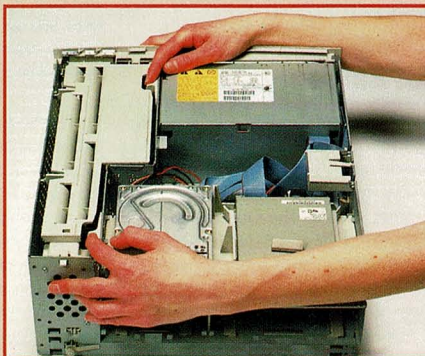
If the processor needs this information, it can get it from the cache card, which could be three or four times faster than main RAM. This has a significant effect on the performance of your Mac, and could speed it up by as much as

15 to 20%, depending on your Mac and the size of the cache. RAM caches are predominantly used in PowerMacs, but the Mac IIci and IIvi also have provision for a 32K cache. However, we couldn't find a dealer who still sells these, so good

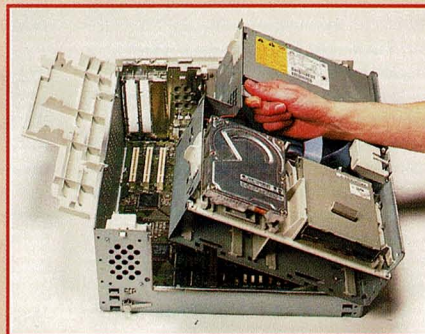
Fitting more RAM to the PowerMac 7200



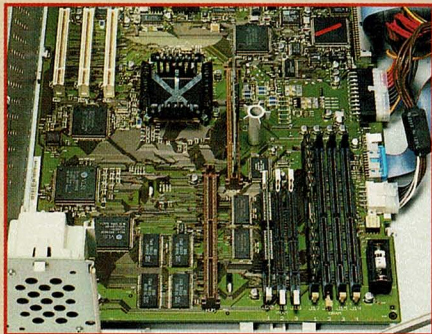
1 Fitting RAM to most PowerMacs is easy, as we'll demonstrate here with the 7200. Make sure the Mac is switched off and all the cables are disconnected. Then snap the two catches on the front underside of the case, and pull the top towards you. You'll find the case will come off easily and can be lifted off.



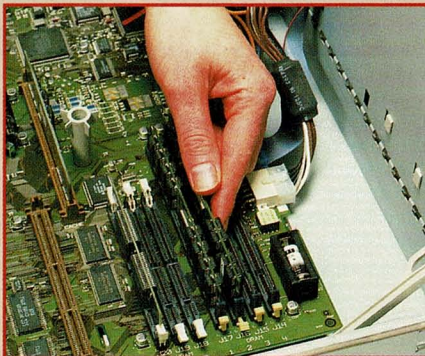
2 The guts of the PowerMac 7200 swings out cantilever-style, giving access to the RAM slots beneath. Snap the two retainer clips towards the centre of the Mac, then swing the plastic slot cover on the left outwards.



3 Using the handy metal lug in the centre, lift the disk drives and power supply assembly upwards and swing it out to the right. You now have access to the entire motherboard below, slots and all.



4 Here's the motherboard of the 7200. The white sockets at the top left are the PCI slots, the brown slot in the middle is the RAM cache, and the RAM and VRAM DIMM slots are at the bottom right. The larger set of slots are for RAM, while the smaller ones are for VRAM.



5 The DIMM will only go in one way round, with the smallest lug to the front of the Mac. Position the card within the plastic retainers and push down. You'll feel some resistance as the slot has sprung connections, but don't push too hard!



6 Put the Mac back together, hook up the cables, and start it up. Check the **About This Macintosh** box. If the total amount of memory hasn't changed or your Mac won't start up, the DIMM is not fitted properly, and you'll need to go back and redo your work.



luck in finding them if you do happen to own one of these machines!

Do it yourself

Upgrading memory is relatively easy in most machines, especially more recent models. The hardest part is working out what type of memory you need to buy for your Mac. Once you've sorted that out, all you need to decide is whether to fit it yourself or get an engineer to do it for you. In most cases, it's a straightforward case of slotting the module into the Mac motherboard – no more difficult than putting together two pieces of Lego. In some early Macs, though, DIY expansion came with the threat of potentially lethal electric shocks; so in compact Macs (the Classic, SE, SE/30 and Classic II, for example), gaining access to the Mac motherboard meant using a special toolkit to open up the case (still available from some Mac resellers).

Once inside, you have to work around the Mac's built-in monitor, which carries a huge electrical charge, even when it's switched off and unplugged. For these Macs, we recommend you get a professional to do the work. In modular Macs, though, it's an easy process, as long as you treat your Mac and your new memory with respect. Always wear an anti-static wrist strap connected to a suitable earthing point when you're fitting any type of expansion. This protects the delicate circuitry from the static charges that build up on your clothes and body. Many resellers (Performance Direct is one) supply a disposable wrist strap when you buy memory. Failing this, any good electronics shop will be able to supply you with one.

On the CD

Inside the **How To's** folder on the Cover CD, you'll find a utility called *Guru* 2.4. This neat application is a database containing details of every single Mac made to date (including clones) and what type of RAM they use.

Macs and VRAM

Consult the table below to find out how much you can expand your Mac's VRAM by. This applies only to mainstream Apple machines. For a more comprehensive list, including all Mac clones, turn to the Mac Facts table in the Buyer's Guide, starting on page 118.

Mac	Min VRAM	Slots	Max VRAM
Colour Classic	256K	1	512K
LC	256K	1	512K
LCII/Performa 400	256K	1	512K
LCIII/Performa 450	512K	1	768K
LC475/Performa 475/ Quadra 605	512K	2	1Mb
Mac IIvx/Performa 600	512K	2	1Mb
Mac IIvi	512K	2	1Mb
Quadra 610	512K	2	1Mb
Quadra 650	512K	2	1Mb
Quadra 700	512K	6	2Mb
Quadra 800	512K	2	1Mb
Quadra 840AV	1Mb	4	2Mb
Quadra 900	1Mb	4	2Mb
Quadra 950	1Mb	4	2Mb
PowerMac 7200	1Mb	3	4Mb
PowerMac 7500/7600	2Mb	4	4Mb
PowerMac 8500/8600	2Mb	4	4Mb
PowerMac 9500/9600	2Mb	2*	4Mb
PowerMac 4400	2Mb	1	4Mb

* Both the 9500 and 9600 PowerMacs use an ATI graphics card, which has two VRAM slots on-board.

WHY DON'T YOU SWITCH OFF YOUR TELEVISION SET AND TRY THE NET INSTEAD?

Over 250 top new Net sites reviewed and rated by the Connect hit squad.

Ace 'n' URL-packed features that mercilessly prod the latest Web fads. Plus some stupid Mr Benn soundfiles.



Instant access to the latest music videos, movie clips and game demos down-loaded on the Connect CD for your cyberconvenience.

Exclusive Net Events Diary tells you when and where you can Webchat with celebs!

Connect

The Essential Guide To Net Entertainment

SAVE 50%

OFF THE COVERPRICE WHEN YOU SUBSCRIBE TO CONNECT

Pay £2.50 an issue instead of £4.99! This limited offer must end on 31st JULY, so get yer order in NOW! For more information, call our subscriber hotline:

01225 822511

Quote reference number CNTGMS1

Debut Issue On Sale

**29th
May**

**future
PUBLISHING**

Mygate

Your Preferred

Mac OS Dealer

Motorola StarMax Range



- StarMax 3000 series Desktop and Mini Tower Fast PPC 603e CPUs
- StarMax 4000 series Desktop and Mini Tower Fast PPC 604e CPUs
- With 5 year w'ty 1st year onsite

Educational prices available on most models, please call

from **£799**
see main listings for prices and specs

Epson Stylus 600 & 800



- A4 Colour Inkjets
- 1440 dpi on coated paper
- 720 dpi on plain paper
- PostScript, LocalTalk and Ethernet option on Stylus 800

Epson Stylus 600 **£215**
Epson Stylus 800 **£315**

from **£215**

High Capacity Hard Drives



These high capacity internal SCSI hard drives have fast access times and are very reliable.

2GB internal SCSI HD **£199**
3GB internal SCSI HD **£255**
9GB external SCSI HD also available now only **£899**

from **£199**

Unbeatable RAM Prices!



16Mb 72 pin SIMMs only **£57**
16Mb 168 pin DIMMs only **£58**
16Mb EDO DIMMs only **£63**
32Mb 72 pin SIMMs only **£113**
32Mb 168 pin DIMMs only **£115**
32Mb EDO DIMMs only **£123**

Lifetime Warranty

16Mb DIMMs only **£58**

Iomega Jaz & Zip drives



- 100Mb Zip drive + 1 cart **£95**
- 1Gb Jaz drive (no cart) **£215**
- Zip carts **£11** • **£9** each (3 pk)
- Jaz carts **£60** • **£58** each (3 pk)
- Internal Zip drive only **£99**
- Internal Jaz drive only **£275**
- Bezels and fitting kits from **£25**

from **£95**

Umax Vista S6e



- A4 flatbed scanner
- 300x600 dpi (up to 4800dpi)
- 24 bit colour, single pass
- Max. scanning area 216x297
- Optional transparency adaptor and automatic document feeder available

only **£175**

Mitsubishi DiamondPro 67TXV



- Diamondtron tube
- 16" viewable screen
- 17" screen size
- 0.25mm aperture grille pitch
- Ultra-slim, only 42.4cm deep
- On-screen menus
- Power Management
- 3 year warranty with first year swap-out

New LOW Price **£399**

APPLE SYSTEMS

New speed bumped PowerMac 5400,5500,6400 and 6500 now available

Performa 5260/120 12/1200 CD & kb	£ 749
Perf 5400/160 16/1.6Gb 8xCD, 28.8 Modem & Kb	£ 999
Perf 5400/180 16/1.6Gb 8xCD/28.8M/TV V-in & Kb	£ 1,199
Perf 6400/180 16/1.6Gb 8xCD, 28.8 Modem & kb	£ 849
Perf 6400/200 16/2.4Gb 8xCD/28.8 M/L2 cache & kb	£ 999
Creative Studio 6400/200/24/2.4Gb/CD/28.8/TV/kb	£ 1,369

PowerMac 5400 and 6400 now available with low cost StyleWriter printers

Call Mygate for the "best deals" on Apple Performa and printer bundles

PowerMac 4400/160 16/1200 8xCD & kb	New LOW Price £ 769
PowerMac 4400/200 16/1.2Gb 8xCD/Ext kb	£ 899
PowerMac 4400/200 16/2Gb 8xCD/L2 Cache/Ethernet/kb	£ 1,049
PM 7300/166 16/2Gb 12xCD/MS Office/Ext kb	£ 1,649
PM 7300/200 32/2Gb 12xCD/MS Office/Ext kb	£ 1,999
PM 8600/200 32/2Gb 12xCD/L2 Cache/Zip/Ext kb	£ 2,199
PowerMac 9600/233 32/4Gb 12xCD/L2 C/IMS/Ext kb	£ 2,899
PM 9600/200MP 32/4Gb 12xCD/L2 C/IMS/Ext kb	£ 3,249

UMAX MAC OS CLONE SYSTEMS

Umax Apus 2000/160 16/1.2Gb 8xCD & Kb	£ 745
Umax Apus 3000/200 16/2.1Gb 8xCD & Kb	£ 1,025
Umax Pulsar 200 32/2100 8xCD/4Mb Video Card /Kb	£ 2,175
Umax Pulsar 225 32/2100 8xCD/4Mb Video Card /Kb	£ 2,375

MOTOROLA MAC OS CLONE SYSTEMS

Motorola StarMax 3180/180 16/1200 8xCD/Kb (D)	£ 799
Motorola StarMax 3180/180 32/2500 8xCD/Kb (T)	£ 899
Motorola StarMax 3200/200 16/1200 8xCD/Kb (D)	£ 1,099
Motorola StarMax 3200/200 32/2500 8xCD/Kb (T)	£ 1,249
Motorola StarMax 3240/240 32/2500 8xCD/Kb (T)	£ 1,599
Motorola StarMax 4160/160 16/1200 8xCD/Kb (D)	£ 1,299
Motorola StarMax 4160/160 32/2500 8xCD/Kb (T)	£ 1,499
Motorola StarMax 4200/200 16/1200 8xCD/Kb (D) + ext ZIP drive	£ 1,849
Motorola StarMax 4200/200 32/2500 8xCD/Kb (T) + ext ZIP drive	£ 1,949

POWERBOOKS

PowerBook 1400cs/117 12/750	£ 999
PowerBook 1400cs/117 16/750 CD w/CSW 2200	£ 1,399
PowerBook 1400c/133 16/1000 CD	£ 2,049
PowerBook 3400c/180 16/1.3 Gb	£ 2,899
PowerBook 3400c/180 16/1.3 Gb, CD & Ethernet	£ 3,099
PowerBook 3400c/240 16/3Gb, CD & Ethernet	£ 4,199

MEMORY/VIDEO RAM - Prices subject to market fluctuations

4Mb 30-pin SIMM	New LOW Price £ 26
16 Mb 72-pin SIMM	New LOW Price £ 57
32Mb 72-pin SIMM	New LOW Price £ 113
16Mb 168-pin DIMM	New LOW Price £ 58
32Mb 168-pin DIMM	New LOW Price £ 115
64Mb 168-pin DIMM	New LOW Price £ 229
16Mb 168-pin DIMM EDO 3.3v 4400/StarMax	New LOW Price £ 63
32Mb 168-pin DIMM EDO 3.3v 4400/StarMax	New LOW Price £ 123
64Mb 168-pin DIMM (EDO 3.3v) for PM4400/StarMax	New LOW Price £ 245
16Mb Powerbook 1400 Series	New LOW Price £ 89
24Mb Powerbook 1400 Series	New LOW Price £ 139
16Mb Powerbook 3400 Series	New LOW Price £ 99
32Mb Powerbook 3400 Series	New LOW Price £ 169
1Mb VRAM DIMM (PM72/75/76/8500/MS 2MB PC)	New LOW Price £ 25
2Mb VRAM DIMM EDO (4400/StarMax)	New LOW Price £ 39
4Mb VRAM DIMM EDO (4400/StarMax)	New LOW Price £ 59

STORAGE

2Gb internal hard drive	£ 199
3Gb internal hard drive	£ 255
4Gb internal hard drive	£ 449
9Gb external hard drive	£ 899
Iomega 100Mb Zip Drive with 1 cart, cables & s/w	£ 95
Syquest EZFlyer 230 Drive with 1 cart, cables & s/w	£ 165
d2 1Gb Ext Jaz Drive w/ 1 cart,cables & s/w (Eko or Classic)	£ 299
1.2x Speed CD-ROM Drive	£ 139
Formac (Yamaha) 4xW/6xR CD Writer with Toast Pro	New LOW Price £ 499
Fujitsu 640Mb Optical Drive w/ 1 cart, cables & s/w	£ 355

PRINTERS - supplied with FREE serial cable

Apple Colour StyleWriter 1500	£ 99
Apple Colour StyleWriter 2500	New LOW Price £ 149
Canon BJC 4550 A3 Colour Inkjet	£ 299
Epson Stylus Colour 800 (PHOTOREAL 1440 DPI)	£ 315
GCC Elite XL61 6 Laser printer	£ 2,495
HP Laserjet 6MP	£ 599
HP Laserjet 5M (MacUser Best Buy)	£ 1,049

PLEASE CALL FOR TONER, PAPER & INK CONSUMABLES

MONITORS - supplied with FREE Mac adaptor

Apple Multiple Scan 15" AV display (£250 if bundled with PM 64/6500)	£ 299
AppleVision 1710 display	£ 499
Formac ProNitron F17 display	£ 325
Sony Multiscan 100xs 15" Trinitron display	£ 249
Sony Multiscan 300sf 20" Trinitron display	£ 999

PLEASE ASK ABOUT OUR MONITOR AND CPU BUNDLES

GRAPHICS/VIDEO CARDS

Mac Picasso 320 2Mb /64bit Nubus Card	£ 199
MS Twin Turbo 4Mb VRAM PCI Card	£ 249
Formac ProVision 4/60 128 bit PCI Card	New LOW Price £ 239
Formac Pro Formance 80 PCI Graphics Card	New LOW Price £ 499
Xceed 24-bit PDS Card LCIII/475/630/Performa	£ 375

SCANNERS/DIGITAL CAMERAS

UMAX SuperVista S12	from £ 325
Agfa SnapScan Flatbed scanner	£ 175
Nikon SuperCoolScan	New LOW Price £ 1,249
Kodak DC50 Digital Camera	£ 415
Sony DK-1 Digital Camera	£ 1,349

SECURITY DEVICES

PowerTrap 6A for 610/660AV, 6100/6150	£ 155
PowerTrap 6B for 630, 6200, 6300, 6320	£ 150
PowerTrap 7A for 650, Ilvi/Ilvx, Perf. 600, PM 7100	£ 155
PowerTrap 7B for PowerMac 7200, 7500, 7600 and 7300	£ 165
PowerTrap 8A for 800/840AV, 8100/8200/8150/8500	£ 175
PowerTrap 9A for PowerMac 9500	£ 195

SOFTWARE

Adobe Publishing Collection (Photoshop, Illustrator, PageMaker & Acrobat Pro)	£ 849
NEW! Adobe Illustrator 7.0	£ 275
Adobe Photoshop 4.0	£ 375
Apple Internet Connection Kit (CD)	£ 35
Artlantis Render 2.1	£ 359
Claris FileMaker Pro 3.0	£ 149
NEW! Claris Works 4.0 Internet Edition	£ 79
Connectix RAM Doubler 2	£ 39
Dr Solomons Anti-virus kit	£ 59
Fractal Design Painter 4.0	£ 315
Insignia Softwindows 95 4.0	£ 285
MacOS 7.6	£ 58
Microsoft Office 4.2.1	£ 349
M.Y.O.B. 6.0	£ 139
MiniCad 6.0	£ 449
Norton Utilities 3.2	£ 69
NEW! One Click Macro Utilities - shortcut software	£ 99
Powerprint	£ 79
QuarkXPress 3.32	£ 619
Quarkimmedia (bundle with Xpress £1,049)	£ 675
Stylescript Postscript software	£ 79
Call for many more software titles and upgrades not listed.	

COMMUNICATIONS

Global Village 33.6 Internet Edition	£ 115
Pace Microlin 33.6 Modem	£ 99
US Robotics Sportster Voice 33.6 Mac Fax Modem	£ 115
Motorola 33.6 PCMCIA Modem Card for PowerBooks	£ 135

ACCESSORIES

Wacom ArtPad II (A6) with Dabblor	£ 99
Wacom UltraPad A5 (ADB) with MacroMedia FGS	£ 199
Wacom UltraPad A4 with MacroMedia FGS	£ 299

APPLE SYSTEMS

New 603e PowerMacs

PM 6400 & 6500

This latest range of PowerMacs are based on superfast 603e CPU's ranging from 180 MHz to a staggering 275MHz (6500/275) and come with lots of free software.

Models include:

- 5400/180 16/2GB/28.8/8xCD/15" disp.
- 5500/225 32/2GB/33.6/12xCD/TV/vid
- 6400/200 16/2 4GB/28.8/8xCD
- 6500/250 32/3GB/33.6/12xCD
- 6500/275 32/4GB/33.6/12xCD/TV/vid

PM 5400 & 5500

Call Mygate for the latest prices on these great systems

Newton MessagePad 2000

The MessagePad 2000 builds on the professional reputation of the Newton and now includes internet access as well as wordprocessing and spreadsheet capabilities.

Features include:

- 160MHz StrongARM 110 Risc Processor • 5 Mb RAM • Built-in speaker and mic • 480 x 320 pixel backlit display with 16 greys • 2 x PCMCIA slots • Handwriting recognition

Introductory Price **£549**

Apple PowerMac 8600

Housed in the new K2 design tower, the 8600 is a true multimedia workhorse based on a 200 MHz 604e processor and offering excellent video, audio and graphics capabilities.

Features include:

- 200 MHz PPC 604e CPU • 32Mb RAM • 256k L2C
- 1.4Mb Floppy drive • 2GB HD • 12x CD ROM drive • Internal 100Mb Iomega ZIP drive • 2Mb VRAM • Apple keyboard • Apple Mouse & more!

only **£2199**

Apple PowerBook 3400

Apple's new range of PowerBooks offer the fastest 603e processors making the 3400 series the optimal choice for mobile professionals who need desktop performance.

Features include:

- 180/200/240 MHz 603e CPU • 16Mb RAM • 256k L2C • 1.4Mb Floppy drive • 1.3/2/3 GB HD • High Speed CD ROM • 12.1" Active Matrix Colour Screen • 1Mb VRAM • Expansion capabilities & more

*configurations differ between models

from **£2899**

Apple PowerBook 1400

This established range of Apple PowerBooks offers great performance for mobile users who need desktop power.

Features: 117 MHz 603e CPU, 16Mb RAM, 750 Mb HD, 6 x CD ROM and more

from **£ 999**

Recommended for your PowerBook

Targus Notepac

A high quality carry case designed for use with the range of Apple PowerBooks. Features a large compartment for the computer as well as pockets for adaptors, disks, batteries etc.



from **£ 30**

Motorola 33.6 PCMCIA Card

This 33.6 kbps modem card from Motorola brings fast communications and Internet capabilities to your PowerBook.



£ 135

PowerBook RAM modules

16 Mb PowerBook 1400 Series	£ 89
24 Mb PowerBook 1400 Series	£ 139
16 Mb PowerBook 3400 Series	£ 99
32 Mb PowerBook 3400 Series	£ 169

POWERMAC 9600/233 Bundle

The Power Macintosh 9600 is the most powerful and versatile machine that Apple produce. Housed in the K2 tower the 9600/233 is the fastest 604e Mac OS machine currently on the market. Bundled with a Mitsubishi 91TXM 21" monitor and a free 1GB external Jaz Drive, this is a truly awesome system suitable for all high end applications.



FREE!

Features: 233MHz PowerPC 604e • 32Mb RAM • 4 GB HD • 4Mb IMS Card • 12x CD ROM Drive • 512k L2Cache • Mitsubishi 91 TXM 21" monitor • Apple Extended Keyboard • Mouse • Apple Internet Connection Kit & more!

Buy this bundle from Mygate and get a FREE 1GB external Jaz Drive.



FREE!

Only

£3899

9600/233 32/4GB/IMS/12xCD/L2C/KB + 21" MONITOR + JAZ DRIVE BUNDLE

All prices shown are business prices and do not include VAT. For consumer prices add VAT at 17.5%

Pace Microlin 33.6 Modem

pace

- 33.6 kbps Data transfer
- High speed Fax send/receive
- Data compression & error correction
- Fast Connect Protocol
- Software & cables included
- Free Internet trial
- BABT approved

only **£99**

Mind Your Own Business (MYOB) 6.0

MYOB

MYOB 6.0 is the all in one accounting package that enables you to record and manage your business financial records.

£ 139

Insignia SoftWindows 95 4.0

Insignia's emulation software allows you to run Windows95 on your Mac. Fully networkable and with support for Mac SCSI devices SoftWindows 95 is invaluable.

£ 285

FREE News Magazines!

To compliment the Macintosh Product Guide, Mygate are proud to announce the launch of two new publications.

Be in touch... SYSTEM

SYSTEM is our new quarterly newsletter which will feature new products, hints and tips, profiles, competitions and of course our extensive price list.

Be first... modeM

modeM is a fax and e-mail update bringing up to the minute pricing, special offers and news on new products or services.

All three publications are exclusive to Mygate and can be obtained by:

Phone: 0800 018 1424

Fax: 0181 318 1802 or

E-mail: sales@mygate.com

The Mygate Service

Sales: lines are open **9am - 6pm Mon - Fri**
10am - 2pm on Saturdays

Personal callers are welcome but please call us to confirm product availability before commencing your journey.

Technical Support on 0181 318 1424 is available for products and services purchased from Mygate.

Payment for goods is with order, by cheque (payable to Mygate Ltd.) or by credit card (no surcharge applied). We also offer Transax facilities, allowing same day clearance on most company and personal cheques as well as Credit and Lease facilities subject to status. All credit cards are subject to checks for fraudulent use. Education, government and approved corporates are welcome to purchase with official orders.

Delivery: All orders for ex-stock items received and cleared by 17.00 (weekdays) will normally be despatched the same day for delivery overnight unless specified otherwise. Delivery and packaging is charged as extra. All deliveries are by national courier (please note we do not guarantee an overnight service unless paid for as extra). Timed and same day deliveries (within the M25) are also available.

Terms & Conditions: All sales are subject to our standard terms and conditions, a copy of which is available on request. Prices and specifications are subject to change without notification. All offers are subject to availability. Pictures are used for illustration purposes only. All products, brand names and trademarks are acknowledged. E&OE.

Mygate Ltd, Units 9 & 11, Southbrook Industrial Estate, Southbrook Road, Lee, London. SE12 8LG

Apple Authorised Reseller
Apple Education Alliance Partner

Ordering Hotline 0800 018 1424

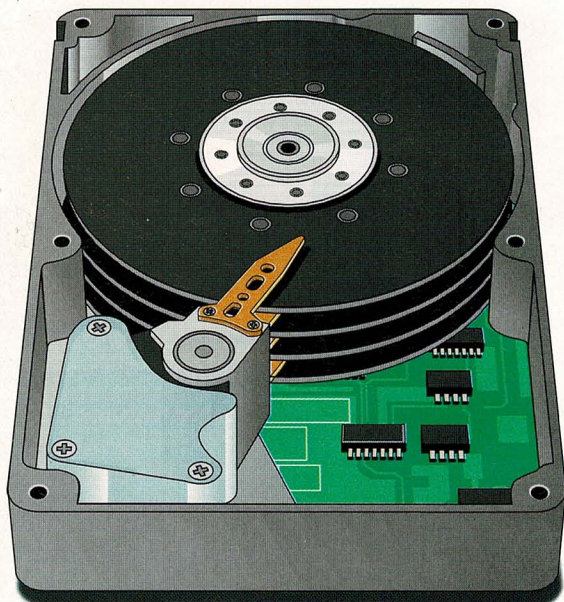




Upgrade your hard drive

Replacing your hard drive with a larger one gives you more space and a lot more speed...

Your hard drive is the third most critical part of your Mac. It holds the operating system your Mac needs to start up, your documents and applications. Sure, you could start up from a floppy disk, CD-ROM or removable drive, but only a fixed hard disk delivers the capacity and speed your Mac demands. As with everything else computer-related, the price of hard drives has dropped substantially in the last few years, while capacity and performance has risen dramatically. These days, most new Macs ship with 2Gb or larger drives – enough to store the contents of a good-sized library.



Inside a hard drive: one or more platters spin at high speed on a central spindle – the faster they spin, the faster the drive. Data is arranged on platters in tracks, and read by read-and-write heads.

Testing testing...

We tested three hard drives on our office Pulsar 200: a 1Gb Fujitsu, a 2Gb IBM and a 4Gb IBM. As you can see, the 4Gb drive whipped the others in terms of speed by a big margin. [Results using *MacBench 3.0*. Longer bars are better.]

6100/60 int. 160Mb HD	70%
Fujitsu 1Gb HD	100%
SimmTech 4Gb HD	142%
Pulsar int. 2Gb HD	102%

The hard drive in your Mac is standard fare that meets basic speed, capacity and cost requirements for the manufacturer. However, there are much larger and faster drives out there, which can increase the performance of your Mac. All hard drive manufacturers quote basic speed specifications for their drives. Most of the terms are quite technical, and to understand how they relate to the speed of the drive, you must first understand what they mean.

Seek time

This is the time taken to “seek out” an individual track (to move the read-and-write heads over it), and seek time is an average expressed in milliseconds. Typical ratings range from 10-16ms; hard drives with seek times of 10ms or less are exceptional and impressive.

Data transfer rate

This is the maximum amount of data per second that the drive can transfer to a host machine, and typical rates are between 10 and 15Mb per second. This is the drive's upper limit; the actual transfer rate will depend on which Mac you connect the drive to. The Mac's built-in SCSI circuitry can handle a maximum of 5Mb per second, but in practice, most Macs will only achieve 2 to 3Mb per second at best. By fitting a SCSI NuBus or PCI card (see page 43), you can achieve better transfer rates of between 10 and 20Mb per second.

SCSI vs IDE

SCSI (Small Computer Systems Interface) is the connection standard the Mac uses for storage devices and scanners. The Mac's SCSI chain can support a maximum of eight devices. One is used by the Mac's SCSI controller, one by the Mac's internal hard drive and one by the internal CD drive (if you have one) – so you can connect five or six additional devices.

IDE (Integrated Drive Electronics) is a common drive type in the PC-compatible world. They are generally not as fast or reliable as SCSI drives, and you can't connect more than two to a computer. But they are much cheaper than SCSI drives, and can be found in most recent Performas (630, 5200, 5300, 5400, 6200, 6300, 6400 and 6500 series), and Mac clones such as the Umax Apus range.

How to make your Mac fly

If you're fitting a larger hard drive to your Mac, it's a good idea to partition it into two or more volumes. Make one volume a startup volume and, for speed purposes, put a System Folder on it. The largest volume the Mac can deal with at present is 4Gb, so if your drive is larger, you'll have no choice but to partition it. Also, consider using custom driver software – a driver is a piece of software embedded on the disk that controls the drive. A custom driver can improve your hard disk's speed by up to 10%, and it does this by using custom data-caching techniques (see page 38).

Tracks and sectors

A hard disk is built from one or more plates called platters. These are covered in tiny magnetic particles that can be magnetised to represent a “one” or a “zero” in binary data. The particles are arranged in tracks – concentric circles – that the read-and-write heads follow on both sides of the platters. There could be as many as 3,000 tracks on each side of a 3.5-inch platter.

The tracks are then divided up into sectors, small sections of the disk that will act as containers for infor-

mation. The sector size is usually 512 bytes, and it takes just over two million of these to make up a 1Gb hard disk. These sectors are then clumped together into allocation blocks, the smallest amount of storage space the Mac will give a file. The Mac can only cope with around 66,000 allocation blocks, so their size depends on the total capacity of the disk. This is the reason why a file's size can jump dramatically when copied from, say, a floppy disk to a large hard drive.

Rotational latency

This is the average time it takes for a specific sector to pass under the read-and-write heads. This time is mainly influenced by the speed at which the platter spins.

Rotational Speed (rpm)	Rotational Latency (ms)
3,600	8.3
4,500	6.7
5,400	5.7
6,300	4.8
7,200	4.2

[Source: Quantum]

The faster the drive spins, the faster data can be accessed and transferred to your Mac.



Expand your Mac

Your Mac comes with expansion slots, into which you can plug a variety of cards to expand its capabilities or improve its performance. We look at some of the options available.

So far we've dealt with upgrades that make your Mac go faster, but you can also expand its capabilities by adding plug-in cards to the motherboard. These plug-in slots enable you to add new features to your Mac or enhance its abilities in certain areas, such as support for a larger monitor displaying more colours.

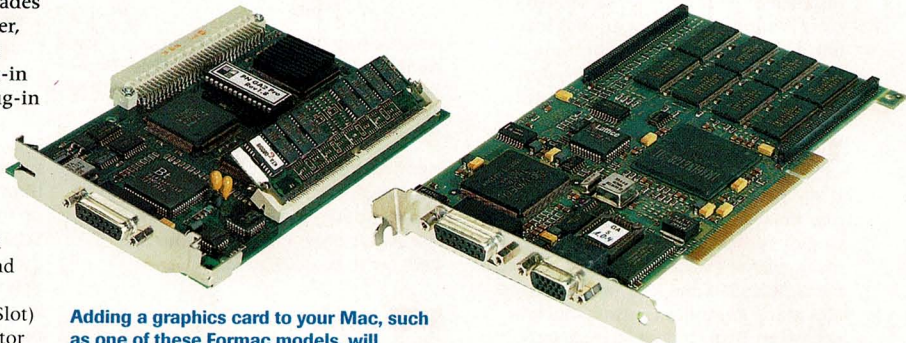
There are three types of expansion slots used in the Mac: PDS, NuBus and PCI. As well as accepting processor upgrades, the PDS (Processor Direct Slot) can support cards for improved monitor display or recording video. The PDS differs from Mac to Mac (and not all have them), so you have to get a card specifically designed for your Mac model. (See page 35 for more on PDS.)

NuBus has an advantage over PDS in that you can have up to six NuBus slots in a Mac, but only one PDS. NuBus is designed solely to accept add-on cards, and you can't upgrade your Mac's processor via them. However, there is a broader range of cards available for NuBus, from graphics cards to *Photoshop* accelerators, fax-modems and video digitising cards.

You'll find PCI (Peripheral Component Interconnect) slots in the latest PowerMacs; PCI does the same job as NuBus, but much faster. Typically, a PCI card can communicate with the rest of the Mac three times faster than a NuBus card can. So, let's take a look at your options.

Graphics cards

The most common type of card available is the graphics card. This plugs into your Mac and provides you with a second monitor port. A graphics card can support higher resolutions and more colours on-screen than your Mac's internal circuitry, and through software acceleration can speed up the screen redraw. This is



Adding a graphics card to your Mac, such as one of these Formac models, will enable you to run your monitor at a higher resolution and display more colours.

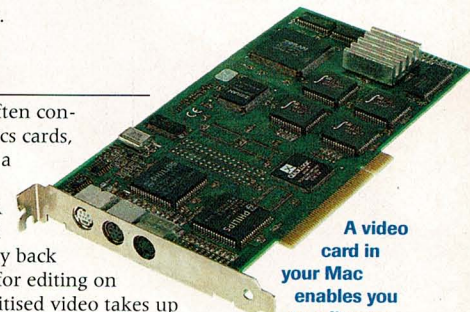
handy for applications such as *Adobe Photoshop*, which have to move a tremendous amount of information to your Mac's monitor when dealing with large files. The software with a graphics card can accelerate this process by diverting some of the workload to the card's own graphics chip.

Which card you go for depends on the Mac you have. Some older Macs have both NuBus and PDS slots, some have one or the other, and some have a combined NuBus/PDS slot. If you have an LCII, Performa 475 or 630, try the Xceed ColorFusion PDS graphics card (£441 from Mygate on 0800 018 1424). For NuBus-based Macs, there are numerous options, but Formac's ProLegend card (priced £467 and tested in MACFORMAT 45; contact Formac on 0181 533 4040) is

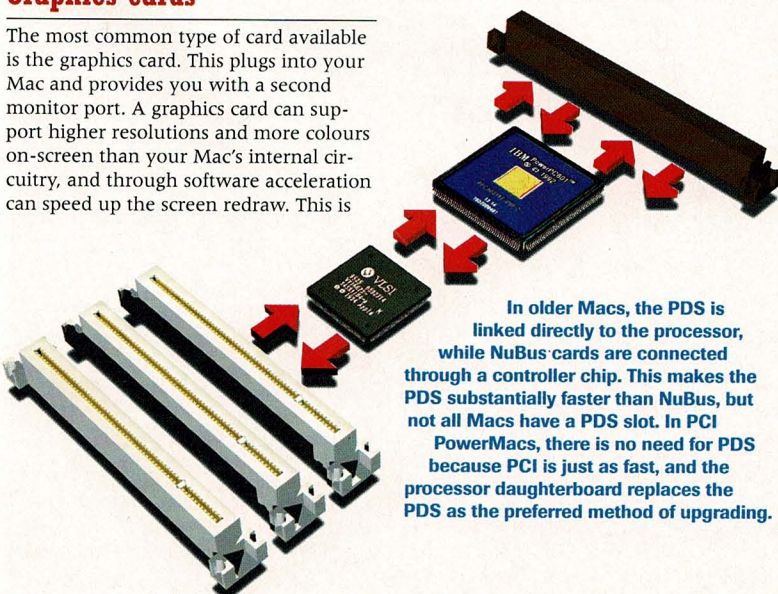
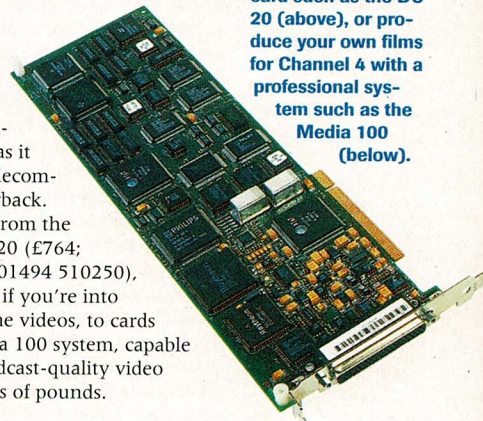
worth a look. Formac has also just released the ProMedia PCI multimedia card, which accelerates QuickTime and QuickDraw 3D, supports resolutions up to 1,280 x 1,024 pixels, and will accept a TV tuner card (available later this year) – all for a mere £117. Look out for a full review next issue.

Video cards

Video cards are often confused with graphics cards, but they perform a completely different function. A video card is used to digitise and play back video and sound for editing on the Mac. Raw digitised video takes up a tremendous amount of space, and your Mac is simply not capable of dealing with the amount of information required to play back full-screen video. To help it, a video card compresses the data as it is recorded and decompresses it on playback. Solutions range from the miroMotion DC 20 (£764; contact Miro on 01494 510250), which is suitable if you're into editing your home videos, to cards such as the Media 100 system, capable of handling broadcast-quality video costing thousands of pounds.



A video card in your Mac enables you to edit your home videos with a card such as the DC 20 (above), or produce your own films for Channel 4 with a professional system such as the Media 100 (below).



In older Macs, the PDS is linked directly to the processor, while NuBus cards are connected through a controller chip. This makes the PDS substantially faster than NuBus, but not all Macs have a PDS slot. In PCI PowerMacs, there is no need for PDS because PCI is just as fast, and the processor daughterboard replaces the PDS as the preferred method of upgrading.

Communications cards

These enhance your Mac's ability to communicate with other computers. For example, you could add an Ethernet card to increase the amount of data your Mac can send over a network, or add a modem card to give you access to

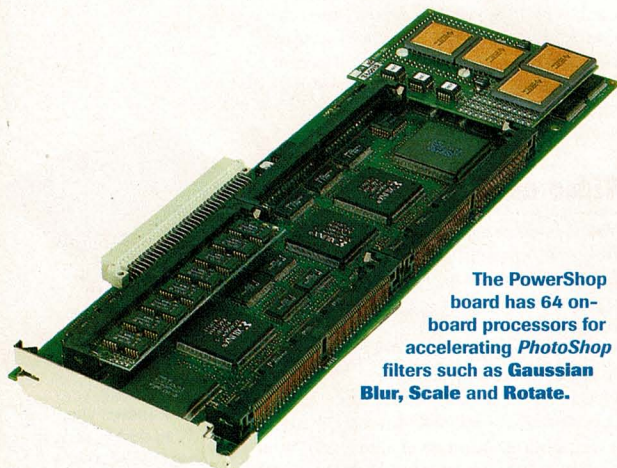


on-line services and fax capability from your Mac's Desktop.

Alternatively, you could add an ISDN (Integrated Services Digital Network) card. This gives you a high-speed connection (68Kbps or faster, compared to a modem's typical 28.8Kbps) to services such as the Internet or remote servers. ISDN is purely digital, so it's faster and more reliable than traditional telephone lines. To use an ISDN card, you have to have a special digital communications line installed in your home or office, which costs around £400 per year, plus installation fees of around £100. For more on networking, modems and ISDN, don't miss next issue's connectivity feature.

Application accelerators

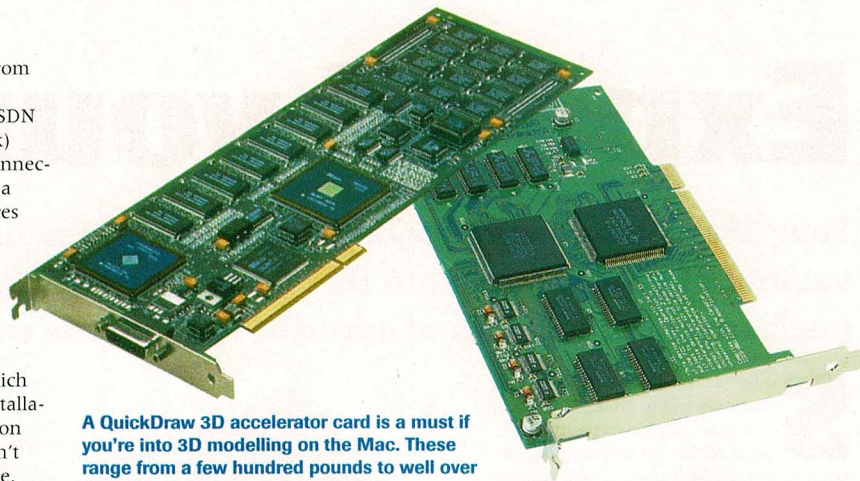
If you deal with high-end graphics, you may be able to get a card to accelerate specific functions within applications. For example, the PowerShop board, available for both NuBus and PCI, vastly accelerates many *Photoshop* functions such as **Gaussian Blur**. It does so by diverting the intense mathematical calculations to its 64 on-board number-crunching processors. The PowerShop board is



The PowerShop board has 64 on-board processors for accelerating *PhotoShop* filters such as **Gaussian Blur**, **Scale** and **Rotate**.

£1,527 for NuBus-based Macs, and £1,992 for PCI PowerMacs. For more details on the PowerShop board, contact Cromenco on 01959 577002.

Another example are the QuickDraw 3D accelerator cards. These accelerate 3D applications that use QuickDraw 3D to display and manipulate images on-screen. Apple's version of this card costs a mere £335 and can accelerate 3D rendering by as much as 12 times. For more details, contact Apple on 0800 127753. The Thunder 3D card from Radius offers around four times the performance of Apple's card, and has built-in graphics circuitry so you can plug your monitor directly into it. The card supports resolutions up to 1,600 x 1,200 in millions of colours, and it costs a whopping £3,525. For more details, contact Computers Unlimited on 0181 358 5857. If you want a 3D accelerator and a graphics card rolled into one, though, you could try Formac's ProFormance 80 PCI card (reviewed in *MACFORMAT* 45) for a mere £411. The card offers resolutions up to



A QuickDraw 3D accelerator card is a must if you're into 3D modelling on the Mac. These range from a few hundred pounds to well over three thousand.

1,600 x 1,200 in millions of colours. For more details, contact Formac UK on 0181 522 4040. All of these cards are PCI PowerMac only; NuBus versions are unlikely to be developed.

SCSI cards

These enable you to add an extra SCSI bus to your Mac for connecting more drives, as well as speeding up data transfer. Your Mac can only deal with 2-3Mb per second through its SCSI bus. However, by using a dedicated card, you can boost this to as much as 15-20Mb. SCSI cards are widely used alongside professional video cards, where the extra

speed is invaluable. The options range from Fast and Wide SCSI, which accepts up to 15 devices, to Ultra Fast and Wide SCSI, which boosts the theoretical data throughput to up to 40Mb per second. You won't get this kind of rate in the real world, because your Mac can't deal with that much data at once; transfer rates of 20Mb per second are more realistic. You'll also have to buy hard drives that are capable of sustaining this kind of data rate – the bog-standard hard drive in your Mac isn't up to the job. Even the fastest drives will only occasionally hit speeds of 18Mb per second. If you want this kind of speed, be prepared to pay through the nose for it.

Which slots?

For Mac clone information, see the Mac Facts table in the Buyer's Guide section (page 118). Remember that the PDS is not the same in every Mac and you have to buy a PDS card specific to your machine.

Mac model	Slots
Compact Macs	
Mac 128	None
Mac 512	None
Plus	None
Mac SE	1 PDS
Classic	None
SE/30	1 PDS
Classic II	None
Color Classic	1 LC-PDS

Mac IIs	
Mac II	6 NuBus
Mac IIfx	6 NuBus
Mac IICx	3 NuBus
Mac IICI	3 NuBus
Mac IIfx	6 NuBus, 1 PDS
Mac IISI	1 NuBus/PDS
Mac IIVx	3 NuBus
Mac IIVI	3 NuBus

LCs and Performas	
LC	1 LC-PDS
LCII	1 LC-PDS
LCIII	1 LC-PDS
Performa 475	1 LC-PDS
Performa 630	1 LC-PDS

Mac model	Slots
Centris/Quadra	
Centris/Quadra 610	1 NuBus/PDS
Centris/Quadra 650	3 NuBus, 1 PDS
Centris/Quadra 660AV	1 NuBus/PDS
Quadra 700	2 NuBus, 1 PDS
Quadra 800	3 NuBus, 1 PDS
Quadra 840AV	3 NuBus
Quadra 900	5 NuBus, 1 PDS
Quadra 950	5 NuBus, 1 PDS

PowerMacs	
PowerMac 4400	3 PCI
PowerMac 6100	1 NuBus/PDS
PowerMac 7100	3 NuBus, 1 PDS
PowerMac 7200	3 PCI
PowerMac 7300	3 PCI
PowerMac 7500	3 PCI
PowerMac 7600	3 PCI
PowerMac 8100	3 NuBus, 1 PDS
PowerMac 8200	3 PCI
PowerMac 8500	3 PCI
PowerMac 8600	3 PCI
PowerMac 9500	6 PCI
PowerMac 9600	6 PCI

PowerPC Performas	
Performa 5200	1 PDS
Performa 5300	1 PDS
Performa 5400	1 PCI
Performa 5500	1 PCI
Performa 6200	1 PDS
Performa 6300	1 PDS
Performa 6400	2 PCI
Performa 6500	2 PCI



The software solution

Can't afford hardware to solve your speed troubles? No upgrade available for your Mac? You could try the software route. We look at what's out there and what it'll do.

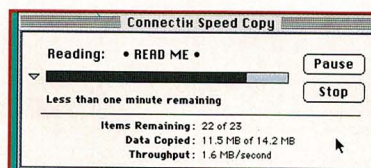
There comes a day, unfortunately, when your Mac just doesn't cut the mustard. Either it isn't fast enough, doesn't have enough disk space or lacks enough RAM. The simplest solution would be to upgrade your hardware, by buying a new hard drive, more RAM, a new processor or even a whole new Mac – but that isn't always practical. The other option available is software (known as System utilities), which are designed to overcome the shortcomings of your Mac or the Mac OS. While everyone has their own favourite System utilities, we'll cover a few that you might want to consider to combat the problems of speed, storage space and RAM requirements.

The speed issue is addressed by the miraculous-sounding *Speed Doubler 2* from Connectix. This program enables you to make multiple copies of documents, with the copying process running in the background – thus you can do other things in the meantime, like launch an application. *Speed Doubler* also improves 68K emulation for older non-PowerPC software. Since the Mac OS still has large chunks of software which have not been written specifically for PowerPC – notably the Finder – you should find both your PowerMac and 68K applications run slightly faster. *Speed Doubler* is therefore of most benefit if you've got a PowerPC processor, and you'll find copying speed improves incrementally the more RAM you have. Whether it doubles the speed of your Mac is questionable, but it should make the time spent on your Mac more productive.

Hot on the heels of *Speed Doubler* is *RAM Doubler 2*, also from Connectix. It enables you to double or even triple your RAM by using improved memory management techniques and a version of Virtual Memory faster than System 7's. *RAM Doubler* comes in useful when you don't have much memory installed, which, by today's standards, is less than

16Mb. If you've been unable to run powerful, RAM-hungry applications, or want to run several programs at once, *RAM Doubler* may provide the solution.

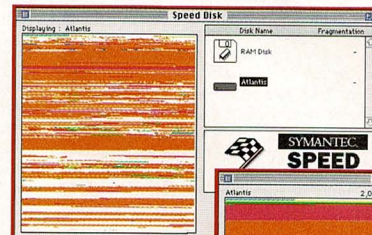
One of the popular alternatives to *RAM Doubler* is *RAM Charger 3* from Synchronys. It works by compressing data in memory much the same way as *StuffIt* does on your hard disk, and by stealing memory from applications that aren't using it and giving it to other programs. *RAM Charger* will happily co-exist with *RAM Doubler* and Virtual Memory, which use part of your hard disk as additional RAM. *RAM Charger* enables you to choose whether you want it to "charge" all your applications or just some of them, and the type of RAM charging you require – either more compatible or more effective. *RAM Charger* doesn't have a UK distributor, so you'll need to get it from the US, where it costs \$29.95 (about £18).



***Speed Doubler 2* improves on the standard Mac OS by enabling you to copy in the background and estimating the time remaining as you copy.**

If you tend to run several programs at once or have little memory, another useful RAM utility is the freeware program *Mac OS Purge*, which cleans up System memory. In an ideal world, the Mac OS would instantly get rid of any unused System memory, and usually it does – but certain Extensions which are memory-intensive, like WorldScript, often leave reserved chunks of memory behind, even after the application that was using them has quit. So the best time to use *Mac OS Purge* is just before you launch a new application.

Having looked at RAM issues, the next area for improvement is the hard disk. Almost inevitably, this will eventually run out of disk space, but you can stall



This is what a fragmented hard drive looks like in *Speed Disk*. Files are scattered all over the drive, and these make it slower.

this by using file compression software. There are several utilities around, and *Norton DiskDoubler Pro* is particularly good for compression and decompression. By compressing files or applications you rarely use, you can find yourself with megabytes of extra disk space. If you also use the Internet and want to compress files, to place on a Web site or to enclose in an e-mail, for instance, the Mac industry standard is *DropStuff*, part of the *StuffIt Deluxe* suite from Aladdin Systems.

If you want to improve the performance of your hard disk, you'll also need to defragment it. As you save files to your hard disk they are placed in various areas of your hard disk, so your hard disk may have to find several files before launching an application. The quicker it can find the files, the quicker your Mac becomes. One of the best utilities for defragmenting your hard disk is *Speed Disk*, part of Symantec's *Norton Utilities*.

Because of the way that most System utilities are tightly linked to the Mac OS, you should keep up-to-date on the various releases of the Mac OS and keep a close eye on utilities updates. For instance, if you have Mac OS 7.6, you need to have *Speed Doubler 2.0.1* or preferably 2.0.3 (on the Cover CD) to avoid Extension conflicts and other problems.

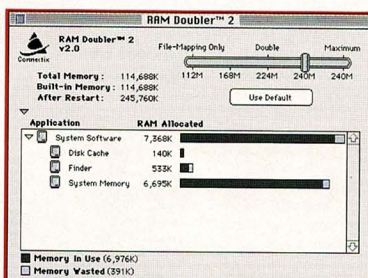
If System utilities seem too expensive, you can still try and tackle some of the issues with a spring clean of your hard drive. Check whether you need to install all those Extensions, fonts and so on, and delete files you no longer need. Your Mac will run better and it won't cost you a penny.

JONATHAN FERMAN

After optimising the drive the files are neatly arranged into areas, which greatly improves disk performance.



*DropStuff,
Mac OS
Purge,
update of
Speed
Doubler
2.0.3*



You can double or even triple your current memory with *RAM Doubler 2*.

Where to get them

Product	Price	Contact	Web site
Speed Doubler 2.0	£53	Computers Unlimited on 0181 358 5857	http://www.connectix.com/
RAM Doubler 2.0	£53	Computers Unlimited on 0181 358 3857	http://www.connectix.com/
Norton Utilities 3.2	£117	Symantec on 0171 616 5600	http://www.symantec.com/
Norton DiskDoubler Pro 1.1	£70	Symantec on 0171 616 5600	http://www.symantec.com/
RAM Charger	\$29.95	Synchronys on 00 1 213 340 4100	http://www.synchronys.com/
StuffIt Deluxe 4.0	£105	Softline on 0181 401 1234	http://www.aladdinsys.com/

Prices quoted are recommended retail. Street prices are generally much lower; shop around for the best deal.

MacLine

MILL HOUSE • MILL LANE • CARSHALTON • SURREY • SM5 2WZ

SALES HOTLINE
0181 401 1111

FAX: 0181 401 1112

**PHONE NOW FOR A LIST OF
SALE ITEMS, SPECIAL OFFERS
AND LIMITED STOCK
- UPDATED DAILY**

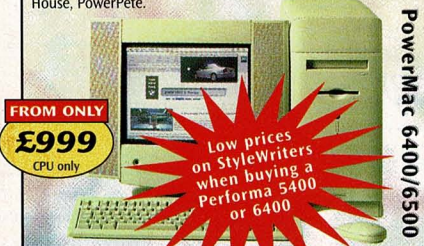
SPECIAL OFFER! Get these ten fantastic Electronic Arts CDs for only £29.00 plus VAT when you buy a Mac. **SPECIAL OFFER!**

Chuck Yeager's Air Combat, Eagle Eye Mysteries in London, Around the World in 80 Days, The Labyrinth of Time, Populous II, PowerMonger, Syndicate, PGA Tour Golf II, PowerPoker, Theme Park

THE APPLE HOME OFFICE

HARDWARE - PowerPC 603e running at 200 or 250MHz, 32K internal cache, integrated FPU, 64-bit memory bus, optional 256K level 2 cache, 16Mb RAM expandable to 136Mb, Internal 2.4, or 3Gb IDE Drive, 1.4Mb, 8x CD ROM, resolution up to 1024 by 768, 16 bit colour up to 800 by 600, optional 28.8Kbps or 33.6Kbps built in modem software included, 16 bit sound, stereo speakers, microphone, 2 x 7inch PCI slot, SCSI, 5.25 inch internal SCSI expansion bay.

SOFTWARE - Mac OS 7.5.3, Best of European Soccer, Apple Telecom 3.0, Ultimate Human Body, Apple Video Player, Aladdin Activity Centre, Lion King Story Book, Acrobat Reader, Toy Story Preview, At Ease, Grolier MultiMedia Encyclopaedia, ClarisWorks4.0, Claris Impact, Claris Organiser, Internet Connection Kit, MacLink Plus, Full Throttle, HyperCard Player, Descent, Performa Clickart, Thinkin' Things 3, Sammy's Science House, PowerPete.



FROM ONLY
£999
CPU only

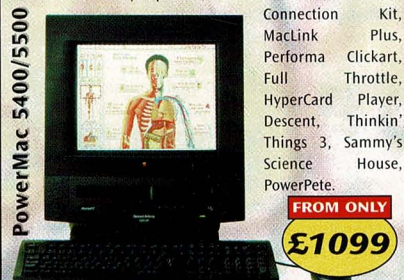
Low prices
on StyleWriters
when buying a
Performa 5400
or 6400

PowerMac 6400/6500

THE FAMILY MACINTOSH

HARDWARE - PowerPC 603e running at 180 or 225MHz, 32K internal cache, integrated FPU, 64-bit memory bus, optional 256K level 2 cache, 16Mb or 32Mb RAM expandable to 136Mb, Internal 1.6Gb or 2.4Gb IDE Drive, 8x or 12x CD ROM, 15" RGB monitor built in, resolution up to 1024 by 768, 16 bit colour up to 800 by 600, 28.8Kbps or 33.6Kbps built-in modem & fax s/ware included, 16 bit sound, stereo speakers, built-in microphone, Video in & TV tuner, 1x7inch PCI slot.

SOFTWARE - Mac OS 7.5.3, The Best of European Soccer, Apple Telecom 3.0, The Ultimate Human Body, Apple Video Player, Aladdin Activity Centre, 120 Letters, Lion King Story Book, Acrobat Reader, Toy Story Preview, At Ease, Grolier MultiMedia Encyclopaedia, ClarisWorks4.0, Internet Connection Kit, MacLink Plus, Performa Clickart, Full Throttle, HyperCard Player, Descent, Thinkin' Things 3, Sammy's Science House, PowerPete.



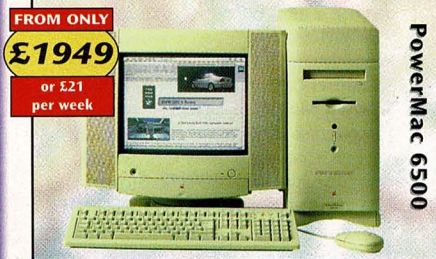
PowerMac 5400/5500

FROM ONLY
£1099

THE APPLE CREATIVE STUDIO

HARDWARE - PowerPC 603e at 275MHz, 32K internal cache, FPU, 64-bit memory bus, 256K level 2 cache, 32Mb RAM up to 136Mb, Internal 4Gb IDE Drive, 1.4Mb, 12x CD ROM, resolution up to 1024 by 768, 16 bit colour up to 800 by 600, Kbps built in modem software included, 16 bit sound, stereo speakers, microphone, 2 x 7inch PCI slot, SCSI, 5.25 inch internal SCSI expansion bay.

SOFTWARE - Mac OS 7.5.3, Avid Cinema, Adobe Photodeluxe, PowerGoo, Cubasis AV, Adobe PageMill, Dabbler, Best of European Soccer, Apple Telecom 3.0, Apple Video Player, Acrobat Reader, At Ease, Grolier MultiMedia Encyclopaedia, ClarisWorks4.0, Claris Impact, Claris Organiser, Internet Connection Kit, MacLink Plus, HyperCard Player, Performa Clickart plus 8 best selling leisure and education titles.



FROM ONLY
£1949
or £21
per week

PowerMac 6500

4400/200

ONLY
£899
CPU only

ONLY
£1099
with 15" monitor

Now running at a
Screaming 200MHz!!



- PowerPC 603e at 200 MHz
- Integrated FPU, 64K cache
- 32K cache
- 16MB of RAM, expandable to 160MB
- Optional 256K level 2 cache
- 1.2GB IDE hard disk
- 8-speed CD-ROM
- Three PCI expansion slots
- AppleTalk
- Support for display resolutions of up to 1,152 by 1,870 pixels at 8 bit colour, 16-bit color up to 832 by 624 pixel resolution.
- Available CPU only or with Apple 15" MultiScan

9600/200MP 32/4Gb/CD/Cache

- Two PowerPC 604e processors at 200 MHz • Integrated FPU, 64K cache • Accelerated graphics card
- 32MB of RAM, expandable to 768MB • 512K level 2 cache • 4GB SCSI hard disk • 12-speed CD-ROM
- Six PCI expansion slots • Ethernet • Composite and S-video video input and output • Support for Speech Recognition and text-to-speech capabilities • 2MB of VRAM, expandable to 4MB • Support for display resolutions of up to 1,280 by 1,024 pixels • 24-bit color up to 1,152 by 870-pixel resolution • Refresh rate of up to 75 Hz



from
£3199
CPU only
or £34
per week

APPLE MONITORS



15" Multiscan
£299

20" Multiscan
£1195

AV 1710
£525

5260 12/800/CD

Based around a Power PC 603e chip running at 100MHz, the 5260 combines the CPU and a 15" multiscan monitor supporting 32,000 colours. It has a built-in quad speed CD ROM drive, 12Mb of RAM as standard, and includes free ClarisWorks version 3.0.



ONLY
£799

6320 12/1.2Gb/CD

Based around a Power PC 603e chip running at 120MHz, the 6320 supports a 14" or 15" multiscan monitor and has a built-in quad speed CD ROM drive. It has 12Mb of RAM as standard, 256k Cache, and includes completely free ClarisWorks version 3.0 and massive software bundle.



ONLY
£725
CPU only
or £8
per week

COLOUR STYLEWRITER 2500

This top selling StyleWriter offers 720- by 360-dpi resolution for both color and black and easily prints high-quality text and images at 5 pages per minute for black and white and up to 0.66 page per minute colour.



£225

LASERWRITER 4/600

The Apple LaserWriter 4/600PS is ideal for the individual home, education and small business users, and it's capable of integrating into offices that have Ethernet. Being Energy Star compliant, the printer works without an on/off switch and instead 'wakes up' when required, consuming less than 10 watts of power when asleep.

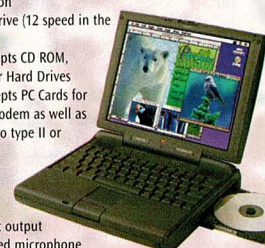


ONLY
£575

POWERBOOK 3400 series

The Apple PowerBook 3400 series takes Apple's most acclaimed feature-ease of use - and combines it with desktop-level performance, state of the art multimedia, and quick and easy communications capabilities. These systems are the optimal choice for mobile professionals who want access to top of the line notebook computer technology

- 180, 200 or 240 MHz PowerPC 603e processor
- 256k level 2 cache
- 750Mb Internal drive
- 12.1" active matrix SVGA display supporting thousands of colours
- Provides built-in Ethernet and modem (most configurations)
- Batteries: lithium ion
- Internal CD ROM Drive (12 speed in the 240MHz model)
- Expansion bay accepts CD ROM, Magneto Optical or Hard Drives
- Expansion slot accepts PC Cards for Ethernet and/or Modem as well as Video. Supports two type II or one type III card
- Ports: Serial, SCSI, ADB, audio
- Features 16 bit stereo sound input output ports and integrated microphone
- Higher performance trackpad



FROM
£2845
or £30
per week
FREE
SOFTWARE

includes free
Now Utilities

Authorised Service Provider
All warranty and non-warranty repairs
call 0181 401 1116

7300 16/1.2Gb/CD/Cache

166MHz
£1699
CPU only
or £18 per week

- PowerPC 604e at 180 or 200 MHz
- Integrated FPU and 64K cache
- 16MB RAM, expandable to 512MB
- 256K level 2 cache
- 1.2GB SCSI hard disk
- 12 speed CD-ROM
- Three PCI expansion slots

Includes free Now Utilities

200MHz
£2049
CPU only
or £22 per week

166MHz
£2199
or £23 pw (with Sony 17" monitor)

- Internal 3.5-inch expansion bay
- Real-time video playthrough of up to 768 by 576 pixels
- 2MB of VRAM, expandable to 4MB
- Fast 64-bit data path to VRAM
- Support for display resolutions of up to 1,280 by 1,024 pixels
- 24-bit color up to 1,152 by 870-pixel
- Refresh rate of up to 75 Hz
- 16bit stereo audio input and output
- 64bit VRAM subsystem
- Includes 10BASE-T and AAUI Ethernet connectors
- Supports Open Transport

The new Apple Macintosh 7300 series combines affordability, high performance and upgradeability to provide an ideal system for small and medium sized businesses, for home offices and for running productivity or multimedia applications in organisations of any size.

INCLUDES FREE MICROSOFT OFFICE!!!

UPGRADE NOW! Mac OS 7.6

Mac OS 7.6
£59

Mac OS 7.6 is the first release in Apple's new strategy of delivering state-of-the-art operating system functionality on a regular basis. This release unites many new Apple technologies with additional features and functionality, to offer pervasive Internet access, improved productivity, state-of-the-art multimedia and enhanced PC compatibility. Specifically, Mac OS 7.6 integrates the Internet more fully into your desktop and documents, provides new ways to work better and faster, enables the creation of more compelling multimedia documents and improves performance and ease of use in key areas such as installation, printing, networking and extensions management. Best of all, Mac OS 7.6 is designed to install easily and works with all System 7 based applications and files. It incorporates new features designed to improve the way you work including: Live Objects component software; enhanced support for PC files and media (including Windows 95); and advanced networking and printing functionality.

KEY BENEFITS:

INTEGRATED INTERNET
Latest versions of OpenDoc, Cyberdog, and Open Transport software including the Apple Internet Connection Kit.

IMPROVED PC COMPATIBILITY
Includes PC Exchange, Mac OS Easy Open, and DataViz MacLinkPlus translators.

FASTER, SIMPLER NETWORKING
Open Transport (OT) speeds and simplifies networking.

STATE-OF-THE-ART MULTIMEDIA
QuickTime Media Layer (QTML) makes it easier than ever to produce and play back high-impact multimedia such as video, sound, and 3D graphics.

SPEEDIER PRINTING
Speeds printing as much as 35%, simplifies setup, and lets you switch printers quickly.

NEW EXTENSIONS MANAGER
Simplifies configuration and troubleshooting.

9600/233 32/4Gb/12xCD/Cache

The Power Mac 9600/233 is top of the line in speed, performance, expandability and upgradeability, which is tremendous news for publishers - particularly those working with advanced colour - as well as multimedia professionals and engineers.

- Power PC 604e at 200 or 233 MHz
- Integrated FPU, 64K cache
- 4MB IMS accelerated Video Card
- 32MB of RAM, expandable to 768MB
- 512K level 2 cache
- 4GB SCSI hard disk
- 12-speed CD-ROM
- Ethernet
- Six PCI expansion slots
- Composite and S-video video input and output
- Support for Speech Recognition and text-to-speech capabilities
- Support for display resolutions of up to 1600 by 1200 pixels
- 24 bit colour up to 1152 by 870 pixel resolution
- Refresh rate of up to 75Hz

200MHz
£2895
or £30 per week

Includes free Now Utilities

With 21" Mitsubishi monitor add ONLY £995

8600/200 32/2Gb/CD/Zip

If your profession demands a high-performance, expandable computer that's optimised to make work easy, choose the Power Macintosh 8600/200 system. This high-performance computer includes built-in video-in and video-out capabilities in an innovative new design. It includes features that make it an ideal choice for in-house publishing, media authoring, and technical applications.

- PowerPC 604e at 200MHz
- 256K cache
- Integrated FPU and 64K cache
- 32MB of RAM, expandable to 512MB via 4 DIMM sockets
- 2GB SCSI hard disk
- 12-speed CD-ROM
- Internal Zip drive
- Three PCI expansion slots
- Ethernet
- Stereo audio input and output support
- 16-bit audio and up to 44.1-kHz sampling rate
- 1MB of VRAM, expandable to 4MB
- Support for display resolutions of up to 1,280 by 1,024 pixels
- 24-bit color up to 1024x768 resolution

ONLY
£2249
or £24 per week

With 21" Mitsubishi monitor ONLY
£3245
or £34 per week

Includes free Now Utilities

STORAGE

Quantum Internal 1.2Gb Hard Drive	£149.00
Quantum Internal 3Gb Hard Drive	£245.00
Quantum Internal 4.5Gb Hard Drive	£595.00
Syquest Flyer 230Mb	£175.00
Flyer 230Mb Cart	£19.00
Syquest SyJet 1.5Gb	£349.00
SyJet 1.5Gb Cart	£59.00
d2 External 2Gb	£275.00
d2 External 4Gb	£525.00
d2 CD ROM Writer	£375.00
d2 12x CD ROM Drive	£185.00
Nomai 540Mb MCD	£229.00
Nomai 540Mb cart	£39.00

All storage devices include power supply, cables and media where applicable

Agfa SnapScan - Great quality scanning at a great value price

The SnapScan is Agfa's most practical - and affordable, colour scanner. This A4 flatbed scanner is designed for use with every desktop computer, at home or in the office. SnapScan captures sharp, full colour images of outstanding quality within seconds. The scanner comes with a complete software package that lets you scan images easily and automatically. You'll be able to digitize photos or illustrations for use in greetings cards, newsletters, slide presentations or even web pages on the Internet. SnapScan is easy to operate and versatile. It's user friendly FotoFlavour software lets you adjust colour, contrast and luminance. It also has OCR capabilities which scan and convert hard-copy text into editable format for use with word processors.

- Personal A4 flatbed scanner
- Optical resolution of 300dpi(h) and 600dpi (v) interpolated resolution of up to 2400dpi
- User-friendly software on CD-ROM for image editing, selective colour correction, fax-copy-print and text scanning. Includes Caere OmniPage LE, Fotolook, FotoSnap, FotoFlavour, Color It
- Previews in 8 seconds
- Optional transparency adaptor
- Optional 60 page automatic document feeder

SnapScan
£169

AGFA
The complete picture.

MEMORY

4Mb SIMMS 72pin	from £25.00
8Mb SIMMS 72pin	from £35.00
16Mb SIMMS 72pin	from £60.00
32Mb SIMMS 72pin	from £125.00
8Mb DIMMS 168pin 70ns	from £35.00
16Mb DIMMS 168pin 70ns	from £55.00
32Mb DIMMS 168pin 70ns	from £125.00
64Mb DIMMS 168pin 70ns	from £245.00
PowerBook RAM	please call

LIFETIME WARRANTY!!! TECHWORKS

HFC Consumer FINANCE

Why pay cash or tie up your credit card when you can lease your new Mac over a 2 or 3 year period at low, low interest rates. Tailored specifically for the home user.

Apple Commercial Credit LEASING

MacLine offer a full range of leases that can be customised to suit the needs of both small businesses and large organisations from around £1000 to £100,000 and beyond if needed. Based on quarterly leasing costs.

NetScape: MacLine Online

Location: Mill House, Mill Lane, Caversham, Surrey GU11 2WZ

VISIT OUR WWW PAGES
<http://www.macline.co.uk/>

ORDER ON-LINE AND GET CHEAPER DELIVERY!

Check prices and order on-line at http://www.macline.co.uk	Free tech support on all products bought from MacLine	Free on-site maintenance with every Mac, provided by Apple	Free RAM install when you buy computer and extra RAM together	Order up to 5.30pm and still get next day delivery!	The oldest Mac mail order company in the UK - in our 10th year!
---	---	--	---	---	---

MacLine

MILL HOUSE • MILL LANE • CARSHALTON • SURREY • SM5 2WZ

Great Productivity Tools

Extensis PageTools. An award-winning collection of 18 plug-ins for PageMaker 5.0 and 6.0. PageTools brings the convenience of toolbars to PageMaker, offering instant access to hundreds of commands, tools and menus. You can apply character styles, draw crop marks, even scale multiple objects! All plug-ins are accessible through buttons and Hot-Help is available.

Extensis QX Tools. An award-winning collection of 15 XTensions. Work faster with customizable toolbars that put hundreds of commands at your fingertips. You can scale multiple objects, create and work in layers like Photoshop, print non-consecutive pages, apply character styles just to selected text, and run your favorite Photoshop filters like KPT.

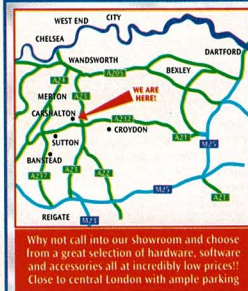
Extensis PhotoTools. Eight productivity and effects tools for Photoshop 3.0.4 and higher. PhotoTools includes a WYSIWYG text formatting module, and four modules for the creation of effects like shadows, bevels, emboss and more. It also includes customizable toolbars with a new SmartBar feature, Tips & Tricks, and Intelligence Lite.

SAVE £40.00!!!
Bundle one of these 3 Extensis packs with their associated program and pay only £49.00!!!

GRAPHICS AND PUBLISHING SOFTWARE

- £89** HAPS POWER Tools
- £279** Adobe Illustrator 7.0
- £395** Adobe Photoshop 4.0
- £199** Cross Trade Design Tool For Print & Internet Graphics
- £299** The Essential Macintosh Creative Tool For Hi-Res Images
- £159** XRES 20
- £649** QuarkXPress
- £389** Adobe PageMaker 6.0
- £149** Save £96!!
- £525** Adobe Collection
- £145** Puser 2.0

WHY NOT PAY US A VISIT



We are only 15 miles from Central London, 7 miles from junction 8 on M25, 25 minutes by train from Victoria Station and 5 minutes walk from Carshalton Station.

WORD PROCESSING

WRDS	Microsoft Word v6.0 (market leading WP)	£249.00
NSWR	Nisus Writer v5.0 (multiple languages capability)	£39.00
THDR	SpellCatcher (spellchecker, works in all applications)	£45.00
WDP3	WordPerfect v3.51 (trade-in from any other word processor)	£55.00

DATABASES

4DFR	4D First (powerful and fully relational starter database)	£95.00
ACTA	ACT! v2.5 (excellent contact management)	£149.00
CORG	Claris Organiser v2 (full featured new database)	£65.00
FLMR	FileMaker Pro v3.0 (now with relational features)	£155.00
INFG	InfoGenie (info organiser, supercedes QuickDex)	£45.00
NOWB	Now Up-To-Date v3.6 & Now Contact v3.6 Bundle	£79.00

BUSINESS

ASTD	Astound v2.0 (powerful presentation package)	£159.00
CLVR	ClarisWorks Internet Edition (leading integrated package)	£89.00
DLTG	Deltagraph Pro v4.0 (best graph and chart program)	£99.00
EXCL	Microsoft Excel v5.0 (market leader, great features)	£249.00
UGMSF	Microsoft Office v4.2 (Word, Excel, PowerPoint) cross trade	£185.00
WRKS	Microsoft Works v4.0 (WP, DB, Comms, Draw, Sheet)	£85.00
MCNY	MacMoney v4.0 UK (home accounts/budgeting package)	£65.00
MYOB	MYOB v6.0 (integrated single user business accounts)	£139.00
PERS	Persuasion v4.0 (high end presentations with outliner)	£195.00
PWPT	PowerPoint v4.0 (powerful, intuitive, easy interface)	£265.00
SINQ	Route 66 CD ROM (road routefinder, includes UK map)	£45.00

GRAPHICS

PHSPB	Adobe Collection v2 (Photoshop 4, Illustrator 6, Dimension 2, ScribbleReady)	£525.00
CNVS	Canvas v5.0 (long awaited new version)	£345.00
CLDW	ClarisDraw (powerful, easy to use draw package)	£109.00
UGCRM	CorelDraw v6.0 (trade in from any graphics package)	£99.00
ADIM	Dimensions (Adobe's 3D extension for Illustrator)	£99.00
DBLR	Dabbler v2.0 (great beginners paint program)	£49.00
PSERM	Fractal Design Poser v2.0 (create human figures)	£145.00
FRND	Freehand v7.0 (professional PostScript drawing & text)	£295.00
MMSF	Freehand Graphics Studio v7.0 (Hand, 7, 3D, Font, X-Res)	£425.00
UGRNB	Freehand Graphics Studio v7.0 (upgrade from Freehand 5.5)	£159.00
INFID	Infini-D v4.0 (leading 3D modelling & rendering tool)	£595.00
ILST	Illustrator v7.0 (pro PostScript drawing, text & layout)	£279.00
KPTG	KPT Power Goo (fun photo retouching program)	£39.00
KPTK	Kai's Power Tools v3.0 (amazing filters for Photoshop)	£89.00
KPTV	KPT Vector Effects (Illustrator/FreeHand FX Plug-Ins)	£89.00
KPTC	KPT Convolver (adds power and ease to Photoshop)	£89.00
KPTD	KPT Bryce v2.0 (3D Skies and Landscapes)	£129.00
RYDS	Ray Dream Studio (3D design, modelling, animation)	£299.00
PHSD	PhotoDeluxe (cut-down Photoshop for non-professionals)	£79.00
PHOD	Photoshop v4.0 (world's favourite retouching tool)	£389.00
PNTR	Painter v4.0 (the premiere painting program) special offer	£149.00
TRBC	TurboCAD 2D/3D (budget but powerful CAD package)	£105.00

DESKTOP PUBLISHING

ACRBM	Adobe Acrobat v3.0 (paperless publishing)	£155.00
ATMD	ATM Deluxe v4.0 (manages and smooths screen/printer fonts)	£49.00
CAIP	Click Art (65000 clip art images)	£34.00
CBGB	Corel Gallery II (15000 clip art images)	£25.00
FLCH	FlightCheck (pre bureau check on Xpress/PgMkr docs)	£245.00
FNTG	Fontographer v4.1 (best professional font creator)	£299.00

SALES HOTLINE
0181 401 1111
FAX: 0181 401 1112

PHONE NOW FOR A LIST OF SALE ITEMS, SPECIAL OFFERS AND LIMITED STOCK - UPDATED DAILY

FUJIFILM DIGITAL IMAGING

Take great pictures with no hassle, no developing and no waiting with this new digital camera from Fuji - one of the leading names in the photographic market.

- High quality digital still camera - no film or processing required.
- Uses built-in 'live' LCD monitor as viewfinder
- Captures full VGA resolution via 350,000 pixel CCD
- Instant picture playback - choose the pictures you want, discard the rest.
- Records on to ultra-compact, 2MB SmartMedia disk
- Download pictures to PC or Mac via serial cable or SmartMedia (via PC Card Adaptor)
- Enhance, sharpen or manipulate your pictures with FREE copy of Adobe PhotoDeluxe

Included in the box:

- DS-7 Digital Camera
- Interface Cables
- Data Transfer software (CD)
- Adobe PhotoDeluxe
- SmartMedia card
- 4xAA Alkaline Batteries
- 4xAA Nicad Batteries
- Nicad battery recharger
- Camera case

ONLY £389
Great Deal! SAVE MONEY ON FILM & PROCESSING

PRINTERS

PMKR	PageMaker v6.5 (power and ease of use) while stocks last!!	£375.00
QKXZ	Quark Xpress v3.32	£649.00
QKXX	Quark Xensions (we carry a wide range)	please call
UNIQ	Uniqum (create Java content easily) Huge Price Reduction!!	£295.00

MONITORS

S21X	Radius PrecisionView 21	£1045.00
SN15C	Sony 15" 100x MultiScan Monitor CPD	£295.00
DP17T	Mitsubishi DiamondPro 17" 67TXX	£445.00
DP17	Mitsubishi DiamondPro 17" 67TXX	£489.00
DP21	Taxan 21"	£1075.00

SCANNING

AFSS	Agfa SnapScan (300 x 600dpi, 24 bit colour)	£179.00
AFST	Agfa StudioStar (600 x 1200dpi, 30 bit colour)	£599.00
AVCS	Avision 100CS (colour desktop scanner)	£179.00
COOL	Nikon CoolScan II (35mm slide scanner)	£745.00
UVSA	Umax Vista 56 (600dpi)	£225.00
UMPLP	Umax PowerLook II Pro	£1495.00
OMPP	OmniPage Pro 7.0 (OCR directly into applications)	£365.00
PPVX	PaperPort VX (greyscale desktop OCR and scanning)	£199.00

DIGITAL CAMERAS

FDSA	Fuji DS7 (MacUser Best buy winner)	£389.00
KD25	Kodak DC25 (point & click, auto exposure)	£299.00
KD12	Kodak DC120	£745.00
CLPX	Nikon CoolPix (small but beautifully formed)	£349.00

COMMUNICATIONS

MROL	Motorola 3400 (MacUser Best Buy 28.8 baud)	£89.00
SPRS	US Robotics Mac Voice/Fax/Modem 33.6	£155.00
TLPP	TelePort Internet Edition (33.6 modem from Global Village)	£125.00

Solve ALL of your storage problems quickly, easily, reliably and cheaply



Zip Drive
£99

Zip Cart x 1
£13
13p per MB!!

Zip Cart x 6
£59
10p per MB!!

This little device can cure "Not enough hard disk space" error messages for good! Each one of its formatted cartridges holds 100MB - which is 70 times the capacity of a floppy! It comes with one cartridge to start your Zip library, and when that one is full - simply buy another cartridge. If you buy the cartridges in 6 packs, the price is under 10p per Megabyte!!! You can even catalogue and organise files easily with the Zip tools software, and secure confidential files using built-in password protection. There is no limit to the amount of cartridges you can use and access time is almost the speed of a fast hard drive. It really is the ultimate home, office and studio data storage and transfer system



Jaz drives and disks are the ideal solution for storing, transporting and accessing large files. You can pack up to 1 gigabyte of each disk, and there is no limit to the number of disks you can use. The Jaz drive's speedy access times and rapid transfer rate mean you can quickly and easily move files around. And the Jaz drive can handle even the most demanding usage's. With a Jaz drive, you can back up a 1 gigabyte hard disk in as little as 5 minutes. When all of your hard disks are full, and optical drive technology lacks the performance you need, and floppy disks are just too small and slow - Jaz is the answer you are looking for.

- Faster than most hard drives (works as fast as you do!)
- Provides 1GB of disk space on each compact cartridge
- Portable - goes where you go



Jaz Drive
£325

Jaz Cart
£65
7p per MB!!

JOIN THE INTERNET With MacLine

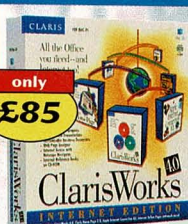


We understand the problems of connecting a Mac to the Internet and can help you navigate through the maze of IP, TCC/IP and MacTCP. It's easy when you know how!

£25.00 joining fee and £12.00 per month
...and the joining fee is halved when you purchase a modem.

**FULL INTERNET ACCESS FOR MAC USERS!
WORLD-WIDE-WEB, EMAIL, FTP, GOPHER**

CLARISWORKS CLARIS INTERNET EDITION



ClarisWorks 4.0 - Internet Edition provides a full set of office productivity and Internet software to handle all your office needs and make it simple to surf the Internet and create your own web pages. It includes ClarisWorks 4.0 with customized small business documents, the Apple Internet Connection Kit, Claris Home Page, plus the Internet Yellow Pages and The ABC's of the Internet books on CD-ROM.

- All the Office You Need** available on CD only! ClarisWorks has all the office productivity you need in one powerful, integrated application. Combine word processing, outlining, spreadsheet, charting, presentations, graphics and paint tools all on a single page.
- Create Web Pages with Claris Home Page** Create and publish your own dynamic Web pages in just minutes without having to learn HTML programming. The intuitive user interface, step-by-step instructions and clip art collection make it easy to create eye-catching Web pages.
- Easy Internet Access and Reference Books** Get on the Internet in minutes via a selection of Internet Service Providers and Netscape Navigator. The ABC's of the Internet and Internet Yellow Pages books on CD-ROM help you take advantage of the fast resources available on the Internet.

NETWORKING

ANET	LocalTalk (AppleTalk) connector kits	£15.00
ASDB	NetDoubler (increase network speed)	from £49.00
FTNP	PhoneNet connector kits	£12.00
FEHD	EtherLan Hub 5 (5 port Ethernet 10BaseT Hub)	£65.00
FAIR	Farallon AirDock (Intra Red LocalTalk connector)	£69.00
QKML	QuickMail v3.6 10 User (powerful, flexible E-Mail)	£349.00
ASPA	AsantePrint (Ethernet to AppleTalk printer router)	£249.00

MULTIMEDIA

MDRT	MacMedia Director v6.0 (key multimedia tool)	£725.00
CLIW	Scitex ClickWorks (multimedia made easier)	£545.00
FLSH	Macromedia Flash 2.0 (create lightning fast web graphics)	£195.00
PRMR	Premiere v4.2 (Adobe's brilliant QuickTime editor)	£399.00
QKIM	Quark Immedia (use Xpress to create multimedia files)	£695.00
VIDD	Video Director v2.0 (edit your home videotapes)	£89.00

PC COMPATIBILITY

DSMT	DOS Mounter 95 (read/write PC floppies) limited offer	£55.00
MLPT	MacLink Pro (best Mac/PC link with 100's translators)	£105.00
SPVD	SoftWindows v3.0 (special offer - while stocks last)	£195.00
SPWE	SoftWindows 95 (New v4.0)	£265.00

INTERNET

4DFI	4D First Internet Server (fast, relational server)	£109.00
HMPS	Claris Home Page v2.0	£79.00
BK010	Internet Starter Kit (the best book)	£36.86
CLEM	Emailer 2.0 (great mail program, supports many services)	£45.00
EDRAA	Eudora v2.1 (most popular mail package)	£59.00
INET	Internet Access Kit (Internet dial up, email, Web, FTP)	£25.00
NTSCB	NetScape Navigator (best browser, includes manuals)	£59.00
NUTW	Now Web Publisher (put diary/schedules on the net)	£105.00
PGML	PageMill v2 (the WYSIWYG way to create web pages)	£65.00
STML	SiteMill v1 (eases maintenance of Web Sites)	£139.00
WBBY	Web Buddy (makes your surfing easier)	£39.00

POWERBOOK

CCPY	Carry Case (Apple or third party)	from £19.00
PCNA	Ethernet Card (Farallon 10BaseT PCMCIA card)	£145.00
TPCM	TDK Modem (PCMCIA 28.8 fax modem)	£175.00

ACCESSORIES

	Cables, Toners and Ink Cartridges (for laser & inkjet printers)	...call
KBCF	Extended Keyboard (15 function keys, numeric pad)	£35.00
QCKM	QuickCam (mono video camera for QuickTime)	£79.00
QCKL	Colour QuickCam (colour video camera for QuickTime)	£159.00
AGMJ	JetStick (joystick for the control you've always wanted)	£39.00
SESY	Security Systems (is your Mac vulnerable to theft?)	from £29.00

MACLINE POLICY

- *Credit cards will not be charged until the order is shipped.
- *If a partial order is despatched, the balance is sent free of additional shipping charges.
- *All goods are sent by a courier service. A signature will be required on delivery.
- *Same day delivery in London area is available.
- *Defective goods are replaced immediately, subject to availability.
- *Prices are correct at the time of going to press. E&OE. We cannot guarantee the prices printed here as they are out of our control and will occasionally be higher or lower. Please check prices with us before placing an order.
- *Refunds will only be given on unopened packages that are returned within 7 days of receipt.

VISIONEER The World's leading paper management system

PaperPort Vx

Okay, so you have no trouble getting paper out of your Mac. But what do you do with the articles, letters, receipts, and business cards—the important papers—that cross your desk every day? You use PaperPort, that's what! Just plug PaperPort into your Mac's printer or modem port and then feed in a piece of paper. PaperPort grabs the paper, scans it and launches the software automatically—there isn't even an ON button! Instantly useful. PaperPort begins to display your documents on the screen even before you're through entering them! Now you've got electronic copies that you can retrieve at any time, using PaperPort's easy-to-use search tools. Streamline your work. With PaperPort's direct links to word processors, OCR software (included!), printers and fax modems, you can file, edit, annotate, print and send your documents directly to others.



**ONLY
£199
free software**

TMADD	Thinking Mouse (4 button with software)	£59.00
TMADD	Turbo Mouse (top selling trackball)	£75.00
WCU6D	Wacom ArtPad II A6 (inc Dabblerr) one month only special!!	£99.00
WCU5	Wacom UltraPad A5 one month only special!!	£195.00
WCU4	Wacom UltraPad A4 (professional) one month only special!!	£299.00
VR256	256K VRAM Chips (adds more colours)	£19.00
VR512	512K VRAM Chips (adds more colours)	£25.00
VR9A	1Mb VRAM DIMM (for 7200, 7500, 8500)	£35.00

PROGRAMMING

HYPC	HyperCard v2.3.5 (new version, more power)	£89.00
CDWG	Metrowerks Code Warrior Gold v11 (PowerMac compiler)	£290.00
CDWJ	Discover Programming with JAVA	£65.00
FTBS	FutureBasic II (the best Basic for Mac, inc. PG Pro)	£179.00

UTILITIES

ATMC	ATM Deluxe v4.0 (manages and anti aliases fonts)	£49.00
CPVT	Captivate (professional screen capture utility)	£55.00
INNV	Conflict Catcher v4.0 (INIT manager and more)	£55.00
NDBP	DiskDoubler Pro (Disk Auto and Copy Doubler)	£59.00
HDTK	Hard Disk Toolkit (the best formatter and checker)	£109.00
NUME	Norton Utilities v3.2 (best selling utilities package)	£75.00
NOWU	Now Utilities v6.5 (suite of essential utilities)	£59.00
POPF	PopUpFolder (view folder contents with submenus)	£29.00
QCKY	QuickKeys v3.5 (macro maker, time saver utility)	£59.00
RAMD	RamDoubler v2 (actually doubles your available RAM)	£45.00
SPED	SpeedDoubler v2 (greatly improves performance)	£45.00
THDR	StuffIt Deluxe (famous file compression program)	£63.82
SUIT	Suitcase v3.0 (manage your font menus)	£55.00
HDTT	Turbo Toolkit (speeds up startup and Finder)	£45.00
OPDT	DesktopTape Pro (treats DAT as if it were a 2Gb drive)	£199.00
PRSB	Personal Backup (best value backup on the market)	£29.00
RTSP	Retrospect v3.0 (powerful archival backup)	from £119.00
SAM	SAM v4.5 (Symantec's anti virus utility) special offer	£49.00
VRX	Virex v5.7 (best virus tracer & eradicator of all)	£59.00

All prices exclude VAT

**Open Monday to Friday 9am to 6pm
Saturday 10am to 4pm.**



MICROLIN 33.6 for Mac

The new MICROLIN 33.6 for Mac is the ideal modem solution for anyone who wants to get their Mac connected to the world at the highest possible speed. The MICROLIN 33.6 for Mac is ideal for high speed Internet access, e-mailing friends and colleagues and sending and receiving faxes directly from and to your Mac.

- 33.6Kbps desktop modem
- High speed send and receive fax
- Error correction and data compression
- Extension socket for parallel telephone connection
- Supplied complete with cables
- Fax and data communications software
- Free Internet trial software



**ONLY
£115**

SYMANTEC

Best-selling Mac tools & utilities



The Norton Utilities 3.2

Put these essential, award-winning tools to work for you and never fear data loss again! The Norton Utilities is the most powerful collection of tools ever developed for protecting and recovering your data. The award-winning technology recovers data where others can't and is your best bet for 100% data recovery.

Norton DiskDoubler Pro

Try the brilliant Norton DiskDoubler Pro - and double the capacity of your existing hard disk, instantly and automatically. The award winning technology compresses files an average of 50 percent, and up to 99 percent. It's the fastest, tightest, safest compression available.



SAM 4.5

The war against computer viruses is over, and you've won! Symantec AntiVirus for Macintosh automatically locks out viruses and repairs infected files. SAM is the highest-rated, best-selling Macintosh virus protection program in the world - the fastest and most unobtrusive. Install SAM once and never worry again!



Suitcase

Suitcase is an essential tool for everyone who works with fonts. You can group fonts into sets for quick access; display them within applications using WYSIWYG font menus; and sample fonts in any size and style to take the guesswork out of selection. You can even link fonts to specific applications, so your fonts will automatically open when you need them.



EDUCATION

FROM 3 YEARS UPWARDS

KDMH	KidsMath (takes kids from counting to arithmetic)	inc VAT (ex VAT) £34.08 (£29)
KDPX	KidPix II (wonderful paint program with sound effects)	£29.38 (£25)
NMBM	NumberMaze (award winning arithmetic tutor)	£41.12 (£35)
RDZM	ReadingMaze (letter recognition to sentences)	£41.12 (£35)

CD ROM

EDUCATION

ARTT	Arthur's Teacher Trouble (interactive story book)	inc VAT (ex VAT) £29.38 (£25)
ARTB	Arthur's Birthday (more Arthur)	£29.38 (£25)
RNRD	Creative Writer & Fine Artist on CD ROM	£41.12 (£35)
LJZCD	Logical Journey of the Zombinis (reviewed)	£29.38 (£25)
HHHS	Harry and the Haunted House (the new best seller)	£29.38 (£25)
KDPCD	KidPix Studio (KidPix plus animation)	£29.38 (£25)
RUFF	Ruff's Bone (adventures with Ruff the dog)	£29.38 (£25)
HARECD	Tortoise and the Hare (the epic race)	£29.38 (£25)

REFERENCE

3DAT	3D Atlas (simply wonderful)	£45.83 (£39)
MAGCD	Art Gallery (Microsoft's tour of the National)	£34.08 (£29)
CINI	Cinemania '97 (1900 movie reviews and more)	£29.38 (£25)
GRLED	Groliers Encyclopaedia 97 (21 vols, 9 million words!)	£41.12 (£35)
OEDCD	Oxford English Dictionary (the whole thing)	£264.38 (£225)
REDCD	Red Shift (superb astronomy program)	£41.13 (£35)
UHBCD	Ultimate Human Body (Dorling Kindersley's one)	£29.38 (£25)
NCRITD	Encarta 97 USA Edition	£81.07 (£69)

ENTERTAINMENT

BEST SELLING GAMES ON CD

MIRHCD	Marathon 1 and 2 Bundle (can you resist?)	inc VAT (ex VAT) £29.38 (£25)
WRGCD	Warcraft II (detailed graphics, haunting sound)	£37.61 (£32)
ASCO	Actua Soccer (set to be number one for sure)	£31.72 (£27)
MJPCD	Mah Jong Parlour (classic oriental game)	£41.13 (£35)
ELACD	Electronic Arts Top 10 Pack 1	£34.07 (£29)
MYST	MYST (magical mystery adventure)	£37.61 (£32)
SIMCC	Sim City 2000 Collection (with extra goodies)	£41.13 (£35)
PRPCD	Prince of Persia I & II (two of the best ever)	£17.63 (£15)

BEST SELLING GAMES ON FLOPPY DISK

ERIC	Eric's Ultimate Solitaire (a dozen patience games)	inc VAT (ex VAT) £41.13 (£35)
A10A	A10 Attack (the best flight sim around)	£45.83 (£39)
F18H	F/A18 Hornet (from the creators of Hellcats)	£57.58 (£49)
BRDG	Bridge (not the Golden Gate but the card game)	£29.38 (£25)
FLSM	Microsoft Flight Simulator (realistic, accurate)	£41.13 (£35)

THESE PRICES ARE FOR BUSINESSES ONLY AND EXCLUDE VAT. CONSUMERS PLEASE CALL.

CALL FOR OUR FREE CATALOGUE



Apple Authorised Reseller

ORDERING & PAYMENT

- *To order please telephone on Mon - Fri, 9.00am to 6.00pm or Sat 10am to 4pm
- *Delivery from only £5.00. (If the goods are not in stock when you order, the charge for delivery still applies.)
- *Payment is by Credit Card, Switch, Cheque, Bank Transfer or Money Order only. We DO NOT surcharge Credit Card orders.
- *Government Departments, Educational Establishments and PLC companies are welcome to purchase with an official order, subject to status. Call our Accounts Department for details.
- *International orders accepted with Credit Card or Bank Transfer only. Shipping charges will be added at cost price.



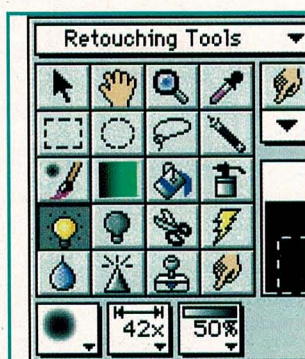
Touch it up!

In **MACFORMAT 50**, we generously brought you *Color It! 3.0.4 LE* as the bonus Cover CD. Following up on last month's starter tutorial, Jim Chandler shows you how to spin a few more *Color It!* tricks.

Last month we took a look at *Color It! 3.0.4 LE*, the very capable painting and image editing program, a full version of which you'll find on the bonus Cover CD with **MACFORMAT 50**.

This month, we're going to try out some of the retouching tools that are included in the program. Whether you just want to remove that unsightly wart from that picture of Aunt Hattie or try some surreal special effects, *Color It!* will have something for you.

On the CD this month, you'll find a save-disabled demo of *Color It! 3.2*, so try out the walkthrough with your own images.

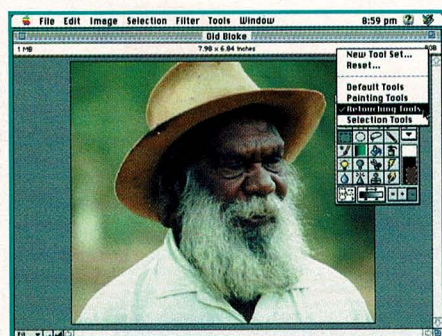


Pointer tool
Mover tool
Magnifying Glass
Eye dropper
Rectangular selection tool
Circular selection tool

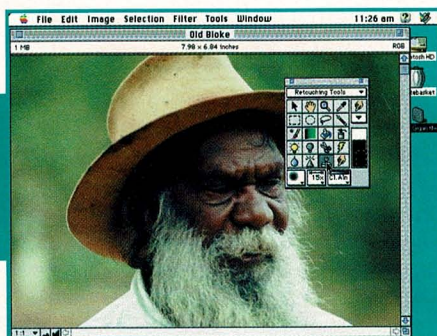
Lasso tool
Magic wand
Paintbrush
Gradient tool
Paint can
Airbrush

Lighten tool
Darken tool
Line tool
Zap tool
Blur tool
Sharpen tool

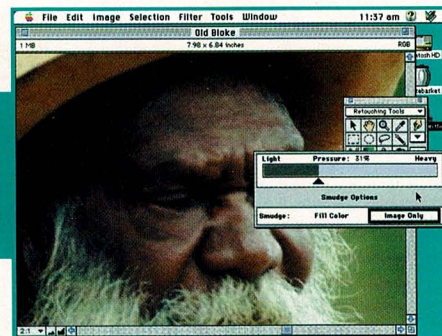
Stamp tool
Smudge tool
Additional tools pop-up list
Background and foreground colours



1 Choose **Retouching Tools** from the pop-up menu at the top of the Toolbox. This replaces the general set of tools with one that's ideal for retouching. We've selected this image from the Corel Collection, and others on this page from KPT Power Photos, to illustrate the results you can get – try these techniques on your own digital images.



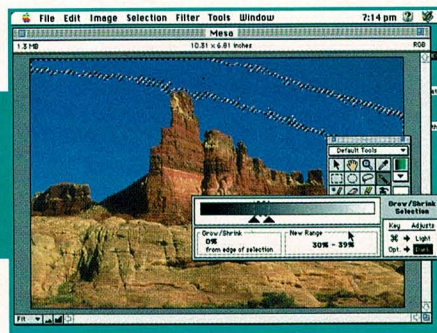
2 The Rubber Stamp works by copying pixels from one part of the image to another. This makes it perfect for removing spots, scratches and other blemishes. Select the Rubber Stamp tool and holding down **[Option]**, click on the area of the image you want to clone from. Now you can paint areas of image over the various imperfections.



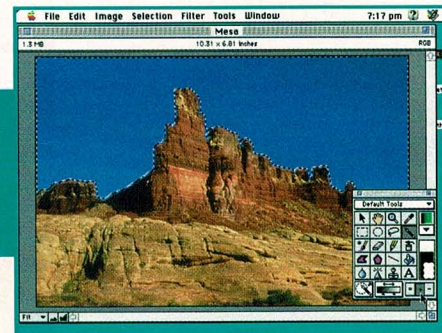
3 Here, we've used the Rubber Stamp to clone relatively smooth areas of skin over the wrinkles on the man's forehead and under his eyes. To help smooth over smaller wrinkles and any rough edges left by the Rubber Stamp, use the Smudge tool, which pushes pixels around as though they were wet paint.



1 Here's a picture of a mesa, but the sky's a bit boring, don't you think? Let's drop in a more interesting sky. Luckily, the sky's a fairly uniform colour, so it's not too difficult to separate it from the mesa. The Magic Wand tool selects areas of similar colour, which makes it ideal for the task.



2 Click on the Magic Wand tool, and then click on the sky. The tool will select areas of colour that are similar to the pixel you clicked on. You can extend or reduce the range of colours you select using the pop-up menu at the base of the Toolbox.



3 To select the rest of the sky, click on the "+" button at the bottom of the Toolbox, and click on the sky again. Keep doing this until you've selected almost all of the sky. Remember to click the "+" button between selections, so that the new selection is added to the old one.



COLOR-IT!

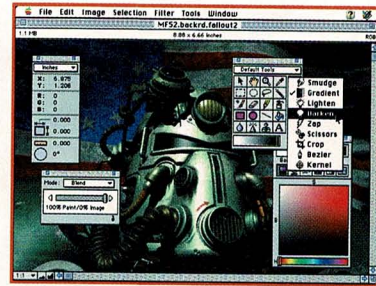
Discover what *Color It!* can do, and upgrade to v3.2 at a bargain price!

Color It! is a full-colour (32-bit) paint and graphics manipulation package that is capable of retouching images or creating artwork from scratch. It's fast, it's friendly, and it's plug-in compatible, which means you can use a whole range of *Photoshop* or *KPT* plug-ins to add new features and enhance its functions. What's more, it will run on any colour-capable Mac in just 2Mb of RAM and 2Mb of hard disk space. (If you have a PowerMac, a fully PowerMac-native version is installed automatically.)

The "LE" version on MACFORMAT 50's bonus Cover CD has a limited range of features, but if you want even more you can upgrade to the latest version, *Color It!*

3.2. It's the easy-to-use alternative to hard-to-learn RAM-guzzlers like *Photoshop*, and offers a full range of powerful tools and functions, including:

- CMYK four-colour separations
- Easy, one-step extrude and drop shadow filters – add 3D effects or realistic soft-edged shadows
- RGB Channel editing
- User-defined multiple Undo levels (up to 16)
- Levels and Curves filters
- Unsharp Masking filters
- Bezier brush and Crop tools
- Kernel Brush tool to apply convolution effects with any of 24 different brushes
- Live filter previews
- Open and Save in JPEG and GIF



Try out the step-by-step tutorial using the save-disabled demo of version 3.2 and some of the new features you'll get if you take advantage of our special upgrade offer (below).



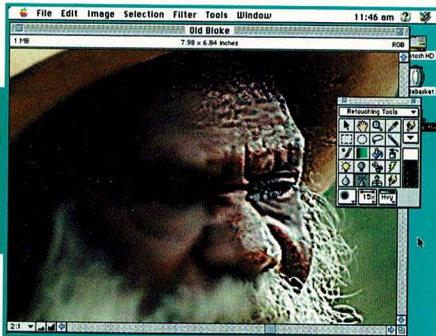
Save-disabled version of *Color It!* 3.2

formats (including transparent and interlaced modes) – ideal for graphics for the Web!

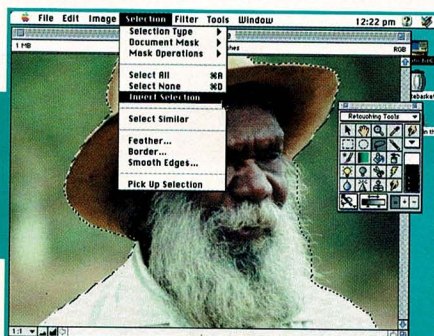
- Advanced eight-bit masking, with separate Document Masks so your file size stays manageable

For a full listing of the features offered by *Color It!* 3.2, see the *Color It!* Product Info.pdf file in the *Color It!* folder on last month's CD. For details of how to upgrade to v3.2, see the "Upgrade!" box.

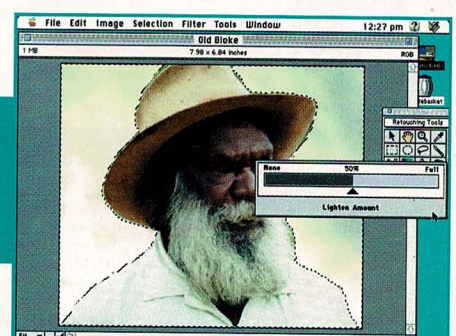
Color It! 3.2 requires a colour Mac with 68020 processor or better, System 7.0 and 2Mb of RAM (3Mb on a PowerMac), so it's the perfect image manipulation application for more modest set-ups. And at our exclusive special upgrade price, you can't buy better!



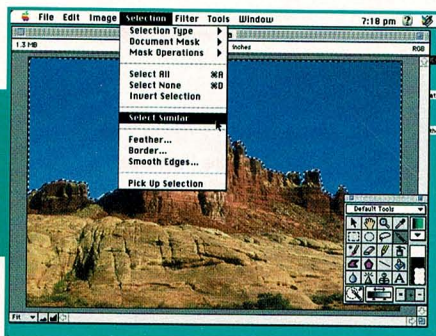
4 The Blur tool looks like a water drop, and it will blur the image where it's applied. The pointy-looking tool next to it is the Sharpen tool, which has the opposite effect, and can be useful for sharpening up blurry areas of a scan. The menus at the bottom of the toolbox enable you to change the current tool's settings.



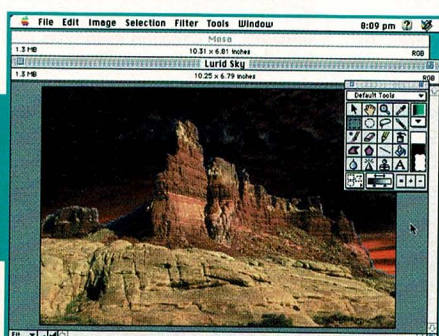
5 The tools that look like light bulbs are the Lighten and Darken tools. To show how they work, we've selected the man by carefully drawing around him using the Lasso tool. What we want to do is "knock back" the background, ie make it lighter, to make the man stand out more. Choosing **Invert Selection** from the **Selection** menu will select the background instead of the man.



6 Now click on the lighter of the light bulb buttons and set the lightness level and brush size using the menus at the foot of the Toolbox. Then go the **Selection** menu, choose **Selection Type -> Selection**, and paint over the background. You can, of course, apply other brushes, filters or fills to this selected area without affecting the picture of the man.



4 Once you've selected most of the sky, to get the last few bits that aren't selected, choose **Select Similar** from the **Selection** menu. This should tidy up these last few areas. Unfortunately, we've selected the sky, when we really needed to select the mesa. To fix this, go to the **Selection** menu again, and choose **Invert Selection**.



5 With the relevant areas selected, choose **Copy** from the **Edit** menu, then load up the picture of the sky you wish to use. Go to the **Edit** menu again, select **Paste**, and use the Move (arrow) tool to position the mesa correctly. When you're satisfied, go to the **Selection** menu and choose **Put Down Selection**. That looks better.

Upgrade!

As a MACFORMAT reader, you can now upgrade to the latest *Color It!* 3.2 for just £29.95, including UK delivery and VAT!*

The CD version includes free pattern sets, clip photos, KPT demos and more. To order, all you have to do is use the Priority Order Form on page 142, specifying "Color It! 3.2 upgrade" and stating the appropriate order code:

CD version Order code: MFCL2C
Price (inc. VAT): £29.95
HD version Order code: MFCL2H
Price (inc. VAT): £29.95

*(This offer is open to overseas readers, but please phone +44 1225 822511 for details of delivery charges before you order.)



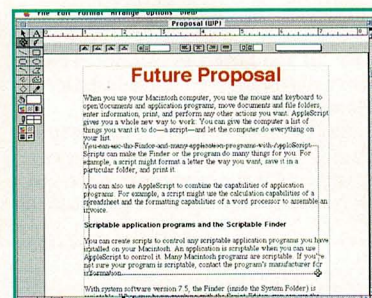
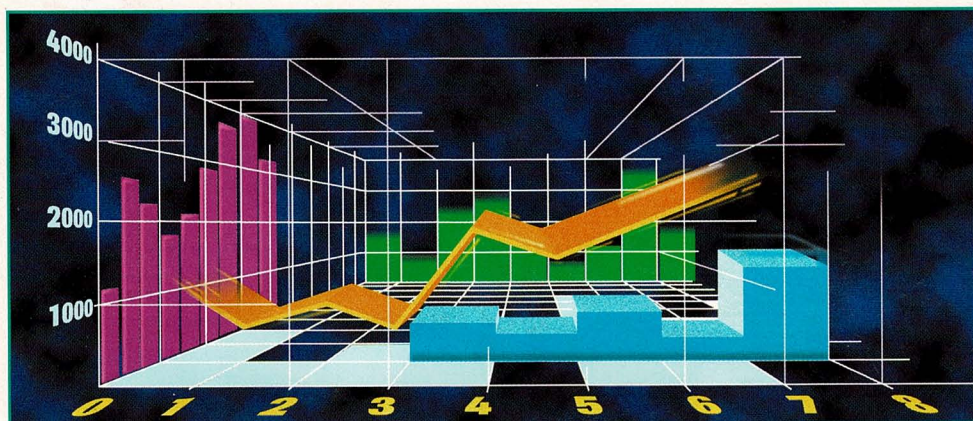
Turning the tables

The *ClarisWorks* word processor module doesn't have a Table tool but this needn't be a problem, as Derek Smith shows you.

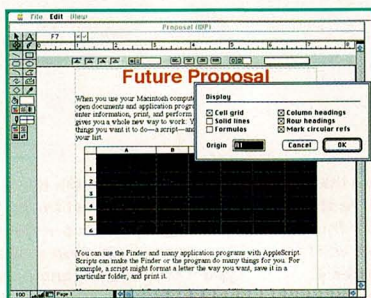
If you regularly use *ClarisWorks*, then you'll know just how clever and flexible it is. What it lacks in depth it more than makes up for in breadth. As it's a fully integrated package, you get a word processor, database, spreadsheet, drawing, and painting program all rolled into one. Individually, these modules can be somewhat anaemic, but, when combined, the sum is truly greater than the parts. Tables are a good case in point.

If you've ever used a fully-featured professional word processing program, you'll have come across tables. Equally, if you've ever seen an impressive report generated on a computer, you may well have seen tables, even if you weren't particularly aware of it.

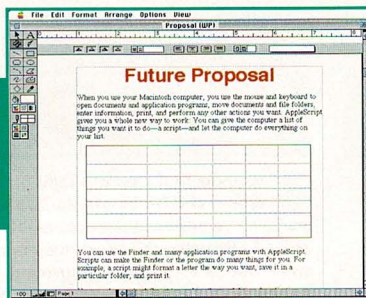
A table is simply a grid into which you



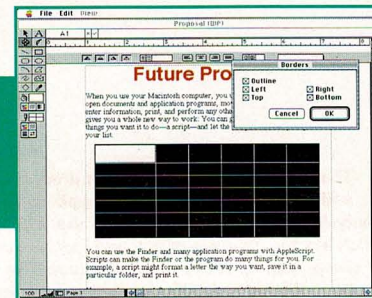
1 Open the document to which you wish to add a table. Click the Spreadsheet tool on the toolbar (the thick cross) and drag a rectangular box the size you wish your table to be.



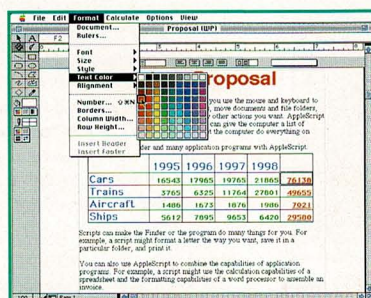
5 Now it's time to start the formatting. Select the Spreadsheet tool again and click anywhere on your spreadsheet to select a cell. Now select **Display** from the Options menu.



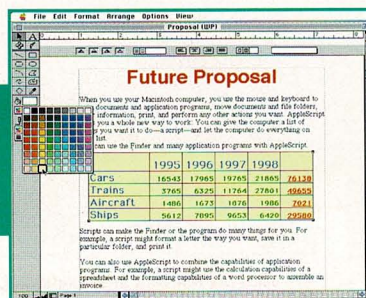
6 You don't want to see the letters across the top of the spreadsheet, or the numbers running down the side, so uncheck the **Column headings** and **Row headings** check boxes.



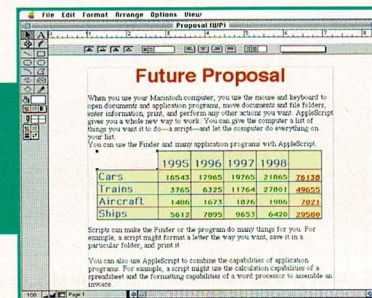
7 Although it's optional, you'll probably want your table to have solid lines, so tick the **Solid lines** box, or, alternatively, use the **Border** command under the **Format** menu.



11 All the normal text formatting tools are available to enlarge the titles and make the figures bold. In this case, we have underlined the totals and changed their colour to red.



12 To produce a coloured background to your table, click the Selector tool, select your table, and then choose a colour from the **Fill Colour** pop-up menu on the toolbar.



13 Although the blank cell in the upper left corner is doing no harm, it gives a more professional feel to get rid of it. A cheat is needed, so draw a solid white rectangle over it.



can type data. A table creates a formal, structured layout for data, especially numerical information. And while it is true that you can achieve a very similar effect with tabs, tables are superior. It is easy to enter data into tables because you can see all the cells, plus, when printed, you can produce a lined grid. Trying to draw lines manually around a tabbed layout is time consuming, especially if you decide later to change the height or width of the text.

Onto the next module

However, as desirable as tables are, the word processor module of *ClarisWorks* doesn't have any table creation features. That's no problem, though, because this is where you can take full advantage of

an integrated package. Tables, by their very nature, are similar to mini spreadsheets, and *ClarisWorks*, as previously stated, includes a spreadsheet.

What this means in practice is that we can use the spreadsheet module to draw a "table" in the word processor module. Although it will initially look like a spreadsheet sat rather uncomfortably in a foreign field, you have all the tools you need to disguise it. As you'll see, you can end up with a table on a par with any professional word processor's.

A significant advantage in this approach is that because your table is a disguised spreadsheet, you can use all the normal spreadsheet functions. These include the ability to create calculations that can total up your columns and rows. Another function of spreadsheets is to

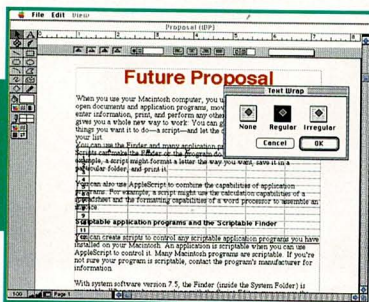
create charts and graphs. This means you can create, say, a bar chart, and also place this in your word processor document. And because there is a live link between your "table" and the chart, changing the figures will automatically change your chart. Easy.

Now it's your turn...

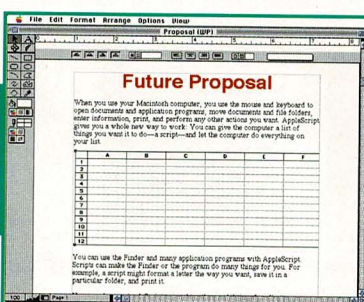
The tutorial set out below centres on a typical use for tables. You need to create an impressive report, which happens to contain numerical data. Instead of describing the data in words, you're going to create a table and display that data in an attractive form. We will even create a chart, although we will be concentrating on producing a great-looking table...

Borders

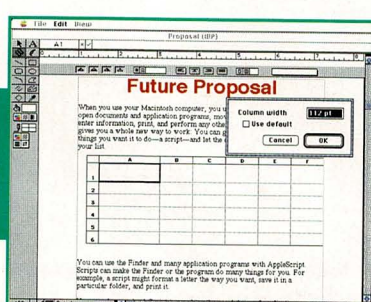
You may want to create a more selective grid for your table, with some lines turned off. You'll need to select **Borders** from the **Format** menu and tick the appropriate boxes to set your lines for the top, bottom, left and right edges.



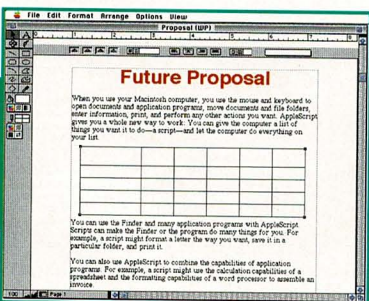
- Click the Selector tool (the pointer above the Spreadsheet tool), and select the spreadsheet you have just drawn. Next select **Text Wrap** from the **Options** menu.



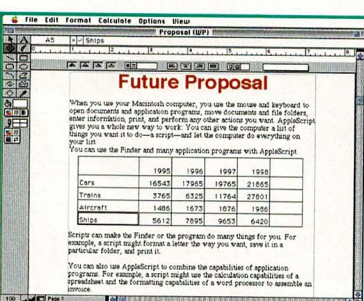
- Click on the regular text wrap, then click **OK**. Providing your spreadsheet is approximately the width of the screen, the text will part to make room for it.



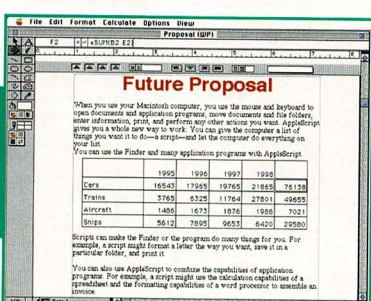
- You'll want to alter the height and width of the cells. You can do this by dragging the lines between the letter and number labels, or use **Column** and **Width** from the **Format** menu.



- Once you have the cells the size you want, you'll need to alter the overall size of the spreadsheet by dragging its handles so that you have the correct number of rows and cells showing.



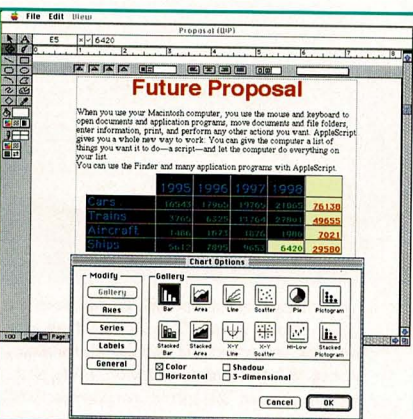
- You can now type in all the titles and data that you wish to present in your cells, in the same way you would do in a spreadsheet, using **[Tab]** to move between the cells.



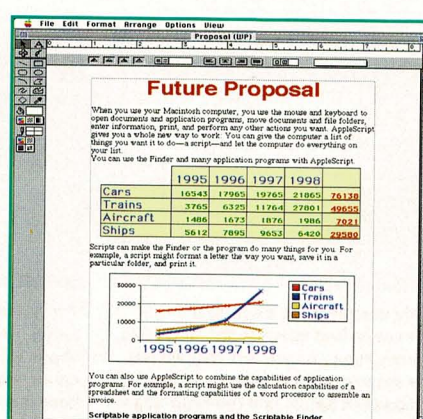
- In the far right columns, we want the totals of the rows, and because this is effectively a mini spreadsheet, you can type in the standard spreadsheet formula of **=SUM(B2..E2)**.

Charts

For some tips on how to improve your *ClarisWorks* charts, see the letters page in *MACFORMAT* 51.



- Now the table is finished. To produce a chart of the figures, start by highlighting all the cells apart from the row totals, and choose **Make Chart** from the **Options** menu.



- You will need to access the general setting in order to set which column or row contains the headings. If you don't get it right first time, you can bring this box up again by double-clicking on the chart.



Database makeover

Creating a good-looking database in *FileMaker Pro* can be a quick and easy process, especially if you read Derek Smith's great hints and tips.

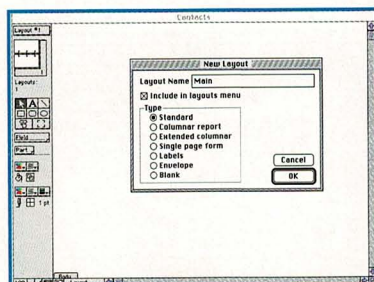
When you're creating a database there are many important development steps to take, such as analysing relations, defining fields, and creating calculations. But what about the way it looks? Surely you aren't interested in that?

Well, imagine Jaguar designing its next super car and concentrating so hard on the engine and chassis that it totally neglects the body. It would be a disaster. The aesthetics of a car are crucial, and it's easy to argue that the interface for your database is just as important.

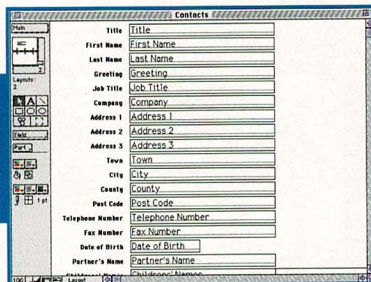
For a start, a clear, logical layout makes it easier to input data, so reducing the possibility of errors being introduced. What's more, if you lay out your fields in a sensible order at the start, it will also



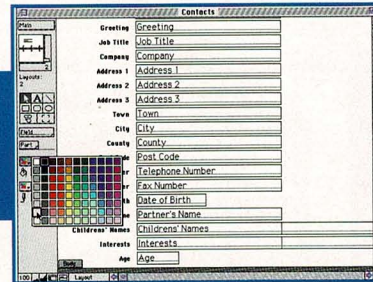
A save-disabled demo of *FileMaker Pro 3* can be found in the **How To's** folder.



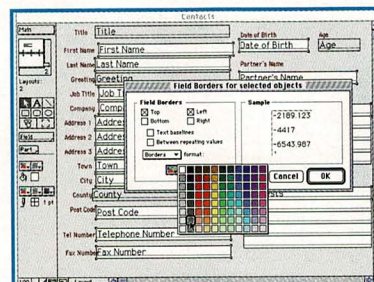
1 We'll assume you've created your database with all necessary fields. Select **Layout** from the **Mode** menu and create a standard layout, which will have all currently defined fields on it.



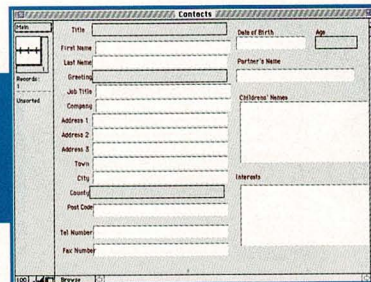
2 Headers and footers are only really useful on columnar layouts, so you'll probably want to delete them. Click the header label and press [delete], then do the same to the footer.



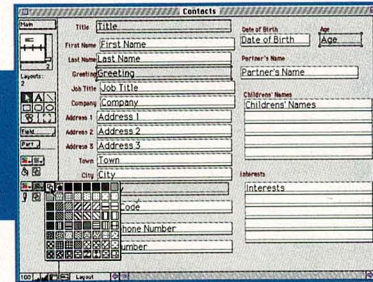
3 You could choose a grey colour to apply to the entire body. Click the body label and choose the colour from the **Fill** pop-up menu. This ensures that the entire background will be grey, even if you enlarge the body.



7 With the standard fields still selected, choose **Field Borders** from the **Format** menu. Turn on just the left and top borders, then simply give the outline a dark grey colour.



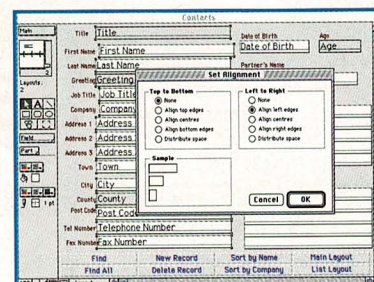
8 For a true 3D effect, you would need a lighter grey along the right and bottom edges of fields, but you can only have one-colour borders. Nevertheless, this trick is still surprisingly effective.



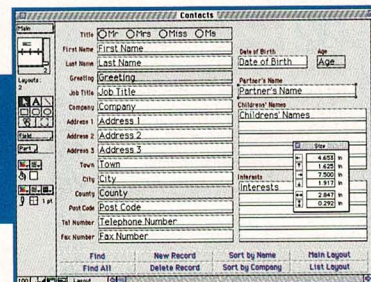
9 For calculation fields, make the fill and line colour transparent. This makes them visually different from standard fields, so it is clear you cannot type data into them.

Formatting

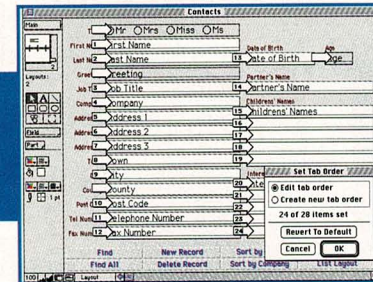
To access many formatting properties of an object, first hold down **[control]** and then press and hold down on the item to see a pop-up menu.



13 It's aesthetically important to get items to line up properly. To do this, select them, then choose **Set Alignment** from the **Arrange** menu. Then, you line up the left edges of fields, and the right edges of labels.



14 As well as being aligned, most fields should be the same width. To check this, select **Size** from the **Show** menu. **Note:** you can copy and paste figures in this box to make fields exactly the same width.



15 Now select **Set Tab Order** from the **Mode** menu. One by one, type in the order numbers for each field, remembering to leave out calculation fields and pop-up menus, but including pop-up lists.



speed up data input, especially if you're taking data from a paper form.

Another important feature is the ability to customise the tab order – that is, the order in which the cursor moves from field to field when you press **[tab]**. A good tab order also speeds up data input and helps to avoid typing data into the wrong fields, especially if you're not a touch typist and look at the keyboard more than the screen.

When it comes to finding and viewing the data, a simple and uncluttered layout is not only easier to use, but it simply looks better. If you are to spend a lot of time using a database, why not invest a few minutes making it look more attractive and professional?

The last factor is consistency. If you only have one database, then this isn't

really an issue, but you'll probably have a variety of databases. Keeping a consistent look and feel across all your databases will help others to feel at home and know where they are.

So, we've established that we want a good layout, and we may want to apply it to quite a few databases. The question now is what sort of layout to opt for. The great thing about *FileMaker Pro 3* is that, compared with other database programs, it has very good graphical tools to create 3D borders and fields (as you'll know if you've used rival database program *4D*). The danger is that you can get carried away, attempting too complex a design. Databases are rarely static, and you'll normally be adding fields or functions throughout their life. You don't want to end up in a situation where every time

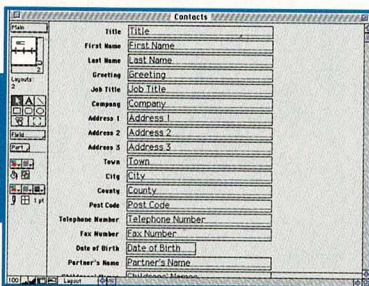
you add a field, you have to spend half an hour redesigning and redrawing your fancy layout.

What we're going to create now is a good-looking 3D layout that takes just minutes to create and requires virtually no maintenance in the future. For the purposes of this tutorial, we're going to use the current trend of a "Microsoft grey" colour scheme, but you can just as easily pick any colour you like. For the base colour we're using the second lightest grey because it is the same shade as the tool bar. Assuming you are going to leave the tool bar visible in browse mode, it helps to blend the whole screen together for a smoother look.

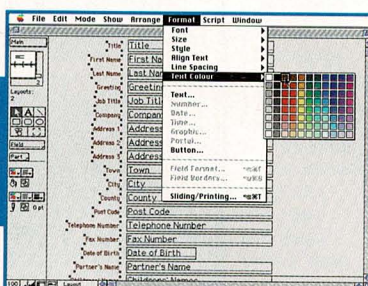
Follow the step-by-step instructions below to design the database equivalent of a Jaguar. An early model, of course...

Selecting

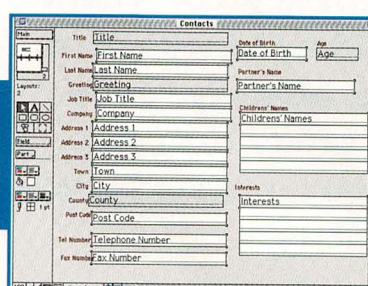
When selecting layout objects, you usually need to encompass them with a selection rectangle. Holding down **[command]** has the effect of selecting all items touched by the selection rectangle.



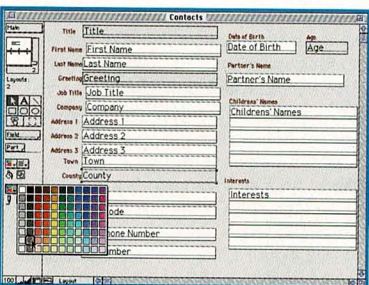
4 You will probably want to change the font and size of the fields and field labels. Geneva is always a safe bet, as it is a standard Mac font.



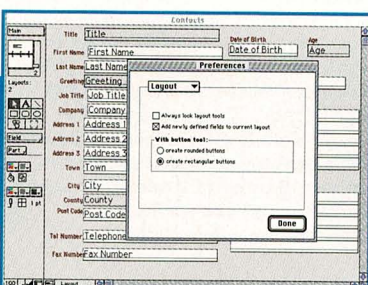
5 By default, the field labels are bold. Try making the labels plain text and change their colour from black. **Top tip:** using a dark red works well against a light grey background.



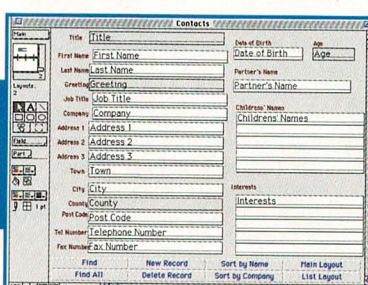
6 You'll probably want to move fields around at this point, then it's time to start the 3D effect. Select all the standard fields and fill them with solid white from the **Fill** pop-up menu.



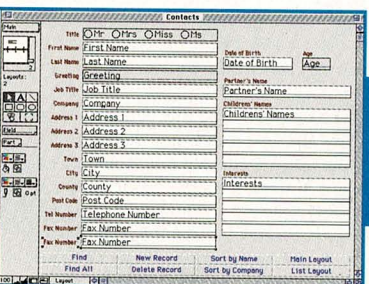
10 Pop-up menus already have a 3D effect – to make them fit in with your colour scheme, simply fill them with white, then change the line colour to be the same as the border colour of your standard fields.



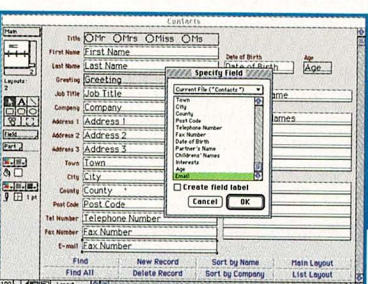
11 Buttons look much better when they have square edges. Select **Preferences** from the **Edit** menu, then choose **Layout** from the pop-up menu. Click the rectangular buttons option.



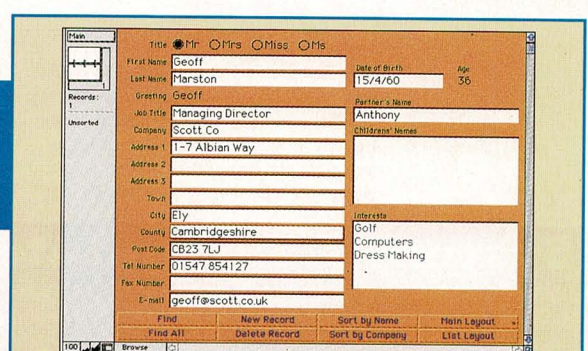
12 Draw them as normal, and give them a fill colour the same as the body colour. *FileMaker* automatically gives them a 3D effect, but the black border spoils it. To rectify this, you simply make the line colour transparent.



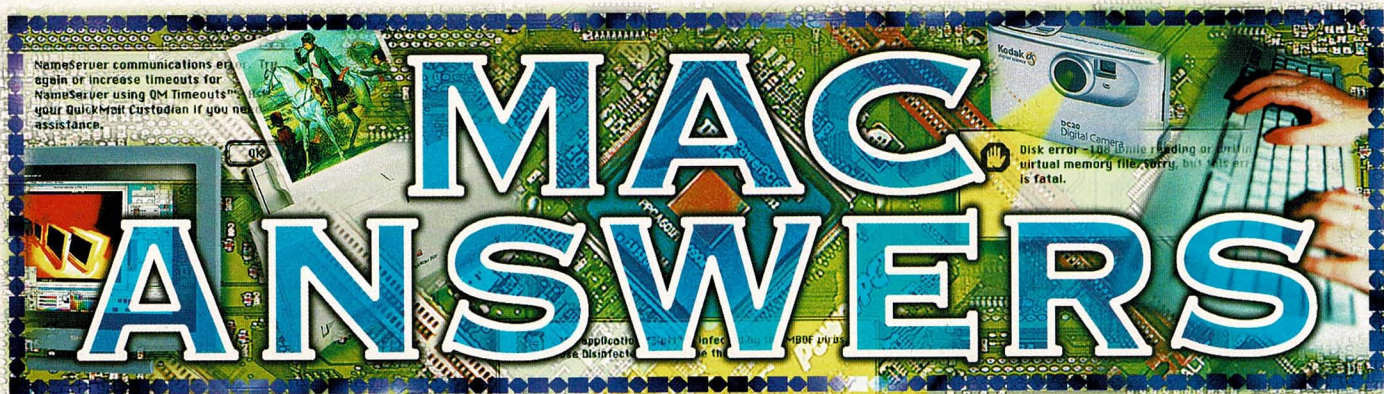
16 When adding fields in the future, it can take a couple of minutes to go through the process of formatting the field and label. A shortcut is to duplicate an existing field and label...



17 ... then double-click the field and a dialogue box will appear, enabling you to change it to the new field. Then select the Text tool and manually alter the field label. Finally move them into position.



18 If grey is not for you, then choose another colour scheme. Whatever you decide, you'll find that once you get used to the process, this 3D layout can be created in just a few minutes.



The inside of your Mac is a dark, foreboding place where no one should tread without a handy guide. Lindsay Bruce tightens his safety rope and leads you past multiple System crashes to safety.

Lower taxes, back to basics, the West Lothian question. Bet you're sick of politics by now, eh? Ha, ha, well be glad you won't find any here. This is MacAnswers, four pages of inspiration devoted to solving your Mac problems. If your Mac is crashing, misbehaving, or simply not doing as it's told, this is where to find the answer. Forget scaling K2 or winning the London marathon, nothing compares to that overwhelming feeling of joy and relief you experience when your ailing Mac finally pings back into life.

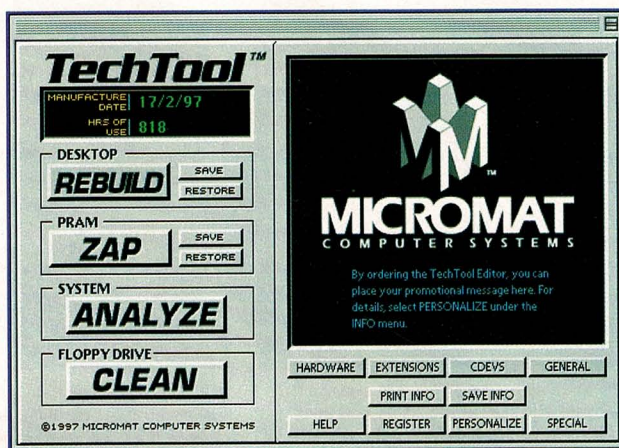
If you have a problem with your Mac, write to us at MacAnswers, MACFORMAT, 30 Monmouth Street, Bath, BA1 2BW. Alternatively, you can e-mail us at macformat@futurenet.co.uk or fax us on 01225 446019. Sorry, but we can't answer technical questions personally as we're all too busy trying to stop our Macs from crashing...

Clear your desk

Desktop files

Q Just as any Mac owner should do, I rebuild my Desktop regularly. Recently, however, something went drastically wrong. After my monthly rebuild, when I tried to open a file that had opened with its parent application before the Desktop rebuild, my

If your Mac resolutely refuses to rebuild your Desktop properly, try using *TechTool*. It's on the Cover CD and it deletes the files first before rebuilding them. See "Clear your desk" below.



Mac returned the "Application can't be found" error.

I have checked the file creator with ResEdit and it was correct, and the file still has the correct icon. When it tried extracting a binary from NewsWatcher with StuffIt, NewsWatcher said, "Could not use the application StuffIt Expander because your Desktop database is corrupt, try rebuilding the Desktop." I have, and still no luck. Can you help?

David Binks, via e-mail

A The Mac's Desktop files hold information about which documents belong to which application. The Desktop files are invisible, hidden from you in the Finder, just in case you trash them by mistake. Your Desktop files are obviously corrupted beyond repair, so here's what to do. Restart your Mac and hold down [shift] to disable Extensions. Once you see the message "Extensions off" displayed on screen, let go of [shift] and hold down [command] and [option] to rebuild the Desktop on your hard drive. Now restart your Mac as normal and see if the problem is cured.

If it is, do another Restart and this

time rebuild the Desktop with all your Extensions switched on. The reason for this is that some Extensions such as **Mac OS Easy Open** affect the way the Desktop files are rebuilt. Rebuilding them without Extensions eliminates the possibility of any Extensions interrupting the process. Rebuilding them again with Extensions on ensures that any information an Extension needs to include in the Desktop files is included.

If that doesn't work, try using *TechTool* (on the Cover CD inside the **Resources** folder) or *Norton Utilities* (Computers Unlimited on 0181 358 5857) to rebuild your Desktop.

To buy or not to buy

System 7.6

Q Is it worth getting System 7.6 or should I wait until System 8.0 appears in the summer? Or do I need 7.6 to use 8.0?

Stevie Jay, Bath, Somerset

A The answer to this depends on what Mac you use. If you're running a PowerMac, System 7.6 is worth buying. More of the OS is PowerMac native so it runs faster, and it contains numerous bug-fixes over System 7.5.5. In System 7.6.1, the dreaded error type 11 has been replaced with non-fatal errors - your Mac won't hang so much. Apple has updated the error handler in the Mac OS to handle these errors properly and the result is that your Mac crashes far less.

We've been running a US version of 7.6.1 on one of our office PowerMacs,

System 7.5.5 updater

For the last two issues we've put the System 7.5.3 revision 2 and System 7.5.5 updates on our Cover CD. Some readers have reported problems trying to update from System 7.5.1 to 7.5.3 revision 2. To solve the problem, this issue we have also put

the original System 7.5.3 updater on the CD. To update to 7.5.5 from 7.5.1, run the 7.5.3 updater first, then 7.5.3 r2 and finally the 7.5.5 updater. Hey, we didn't produce the updaters, we're just passing on Apple's bug-fixes...



Bug bytes: bug reports and fixes

■ System 7.6.1 and Level 2 RAM cache

Apple has confirmed that a bug in System 7.6.1 disables the Level 2 RAM cache in most Macs based on the Tanzania and Alchemy motherboard designs, resulting in a marked speed loss. The RAM cache stores frequently used data from RAM and speeds the processor in PowerMacs. The bug affects all 603e-based Macs, the PowerMac 4400, the Motorola StarMax range, and the Computer Warehouse clones.

Apple is working on a fix for the problem. In the meantime, Apple suggests that if your Mac is affected,



In some cheaper Macs, such as the Manhattan from Computer Warehouse, a bug in System 7.6.1 will prevent the Level 2 RAM cache from working. This could result in your Mac slowing down by as much as 15%.

you revert to System 7.6 by doing a clean install from the System CD.

■ **System 7.6 and QuickTime 2.5**
Apple has discovered a conflict between System 7.6 and QuickTime 2.5, which may cause your Mac to crash. The conflict arises most often when dealing with larger QuickTime files (over 5Mb) on more professional video editing systems, although it can occur when you're playing back small files. Increasing the application's memory allocation in the **Get Info** box can help prevent a crash. Apple is working on a solution to the problem.

■ CD won't mount on PCI PowerMac

Some PCI PowerMac users have reported problems mounting CDs after performing a clean install of the System software. Apple has traced this fault to an older version of the Apple CD-ROM Extension which was inadvertently shipped with some Macs. The version in question, 5.1.2, does not support the 8x speed CD-ROM drives found in newer PCI PowerMacs.

You can download version 5.1.7 of the Apple CD software from <http://support.info.apple.com/ftp/swhome.html>

support.info.apple.com/ftp/swhome.html

■ Speed Doubler update

Connectix has released two updates for *Speed Doubler* to fix incompatibility with System 7.6 and both are on the Cover CD inside the **System Updates** folder. If you are running *Speed Doubler 1.x*, use the 1.3.2 updater. If you have *Speed Doubler 2.0*, use the 2.0.3 updater.

■ AppleVision 1710AV and startup chime

Some AppleVision 1710AV monitor owners have reported problems hearing the whole startup chime on their Macs when the monitor's speakers are connected to the Mac's sound out port. Sometimes they can hear part of the chime, sometimes none of it. If you have the monitor's power supply connected through the Mac so they both turn on at the same time, there is a delay in power reaching the monitor's speakers to prevent power spikes, causing the speakers to thump. In other words, this is a safety feature and there is nothing wrong with your monitor.

■ Disk Copy 6.1.2

Apple has revised its floppy disk image program to support a new format. *Disk Copy 6.1.2* enables you to make exact copies of a floppy among other things. Download it from <http://support.info.apple.com/ftp/swhome.html>



and after a month it's only crashed once (an error type 10, since you ask). The US version of 7.6.1 is already out, and a UK version should be out by the time you read this. Another reason for buying System 7.6 is the System technology that comes with it, such as OpenDoc, Cyberdog (Apple's Internet browser and e-mail client), QuickDraw 3D, and an updated version of Open Transport.

For 68K-based Macs, it's less clear-cut, but 7.6 is still compelling. In addition to offering the above System technologies (most of which were previously only

downloadable from the Internet), you get other goodies such as the *Apple Internet Connection Kit*. This contains everything you need to get onto the Internet except the modem, including *Netscape Navigator 3.0*. System 7.6 is also more stable on 68K Macs than System 7.5.5.

You won't need to have System 7.6 to be able to use System 8.0 when it comes out. However, Claris, who distributes the Mac OS, has said that those who do buy System 7.6 will get a discount on System 8.0. As yet the figure has not been announced, but watch this space for more details. For more information on System 7.6 and what it can do for you, see our full review in *MACFORMAT* 50.

One careful owner...

Selling old software

Q If I purchase a software upgrade, what is the legal status of the previous version that I originally bought? Can I sell it on to a third party? If so, would it carry upgrade rights also? Or does old software somehow change status once it has been upgraded? If not, what exactly is the legal difference between upgraded software and yet-to-be upgraded software?

Am I right in thinking that you can install a piece of software on any number of machines

If you pay a special price to upgrade to a newer version of any application, you can't then sell the older version on with its upgrade rights. You must sell both together.

but you are legally only allowed to run it on one machine at a time? Is there anything preventing you from sharing software with someone else, say, on the other side of the world, who would not use it during the same hours as you would?

What happens if I suffer loss of both



System 7.6 brings together technologies Apple has been developing for the last three years. But is it worth buying, with System 8.0 just round the corner? See "To buy or not to buy" (left).

Scanning for plug-ins... LinoColor Export...

Adobe Photoshop™ 3.0

PowerPC™

Thomas Knoll, Mark Hamburg, Kevin Johnston, Zalman Stern, Sean P. Paul Holland, John Leddy, Bryan Lamkin, Bruce C. ...

U.S. Patent 5,146,346. Patent pending. All rights reserved. Adobe Photoshop, Pantone, Inc.'s check-standard trademark. ©1985-1993 Apple Computer, Inc.

Licensed to: **Lindsay Bruce Macformat**

Adobe Photoshop™ 4.0

PowerPC™

Thomas Knoll, Mark Hamburg, Seetha Narayanan, Sean P. Paul Holland, John Leddy, Bryan Lamkin, Bruce C. ...

©1985-1993 Adobe Systems, Incorporated. All rights reserved. Adobe, the Adobe logo and Photoshop are trademarks of Adobe Systems, Inc. Pantone and PANTONE are trademarks of Pantone, Inc. MacApp® ©1985-1993 Apple Computer, Inc.



Your problems solved

If you agree with the terms of this license, press "Agree" to install the software. If you do not agree, press "Disagree".

Apple Computer, Inc. Software License

PLEASE READ THIS SOFTWARE LICENSE AGREEMENT "LICENSE" CAREFULLY BEFORE USING THE SOFTWARE. BY USING THE SOFTWARE, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS LICENSE. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENSE, PROMPTLY RETURN THE SOFTWARE TO THE PLACE WHERE YOU OBTAINED IT FOR A REFUND.

1. **License.** The software and any fonts accompanying this License whether on disk, in read only memory, or on any other media (the "Apple Software") are licensed, not sold, to you by Apple Computer, Inc. or its local subsidiary, if any ("Apple"). You own the media on which the Apple Software is recorded but Apple and/or Apple's licensor(s) retain title to the Apple Software. The Apple Software in this package and any copies which this License authorizes you to make are subject to this License.

2. **Permitted Uses and Restrictions.** This License allows you to install and use the Apple Software on a single Apple-labeled or Apple-licensed computer at a time. This License does not allow the Apple Software to exist on more than one computer at a time. You may make one copy of the Apple Software in machine-readable form for backup.

Save... Print... Disagree Agree

Before you install anything on your Mac, make sure you read the documentation and the licence agreement. It will tell you how many machines you can install it onto and if you can sell the software on.

installed software and backups (say in a fire or by theft)? Can I purchase the replacement software for a nominal price, seeing as I already have a licence to use it?

Mark Brinkley, via e-mail

A Good question, or should we say questions. Different software companies have different legal conditions in their licence agreements. Strata, who produces *StudioPro* for example, allows you to install its software on as many machines and make as many backup copies as you like, but only as long as you use one copy at a time. You are restricted to using the software for your own personal use, though, so don't give a friend a copy, even if they do use it at different times of the day! Quark, on the other hand, only allows you to install its software on a single machine and make one backup copy. If you want to install it on another Mac, then you have to buy another copy.

As far as selling old software goes, there are some rules you must adhere to. Technically, you do not own the software and therefore do not have the rights to sell it. When you buy software, what you're actually buying is a licence to use the software. You own the floppy disks or CD that the software comes on, but

Into the millennium

The latest on the millennium bomb saga (the theory that all computers will rebel at midnight on 1 January 2000 because they can't handle the new date format) is that it's not an issue with the Mac. The Mac's internal time keeping can actually handle dates between 30,081 BC and 29,940 AD. Because of a simplifi-

cation in the Date and Time Control Panel, the date on your Mac is restricted to between 1920 and 2019, depending on when your Mac was made and what version of the System software it's running. All applications that retrieve the date and time from the Mac's System software will have no problem with the new millennium.

not the software itself. However, in most cases you can sell your licence to the software to another individual. You must include all of the disks, manuals, and licence documentation along with it, remove all trace of the software from your Mac, and destroy any backup copies of the software you have made. If you don't do this, you are in breach of the licence agreement and if found out you could be prosecuted.

If you have upgraded (meaning paid a reduced price for) a software package, Microsoft Word 5.0 to Word 6.0, for example, then you must sell both on – you can't sell one or the other on its own. So, if you'd upgraded Word 5.0 to Word 6.0, then you must provide the purchaser with disks, manuals, licence and registration details for both packages. The exception is where you haven't taken advantage of an upgrade offer and have paid full price for both programs. In this case, you can sell the packages separately, and this applies not only to applications but to the Mac OS itself. So, as long as you adhere to these few rules, upgrade rights are automatically transferred.

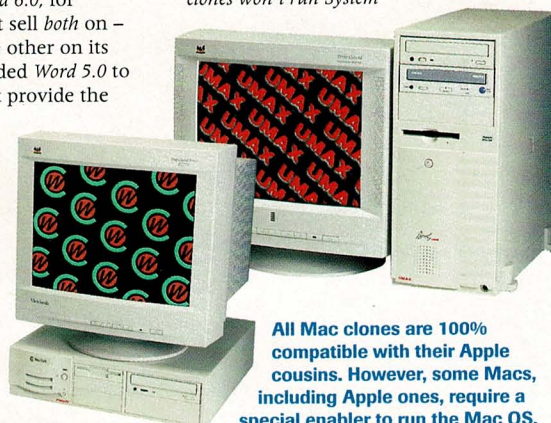
If your original software disks are lost, destroyed or damaged, you can get replacements from the software company concerned, provided you are a registered user. In most cases, a handling charge

will be made, but this is likely to be only a few pounds, depending on the company involved.

100% compatible?

Mac clones

Q I have been thinking about buying a Mac clone instead of an Apple machine because they are much cheaper. I don't want to spend a lot of money, and some of the cheaper machines seem almost as powerful as Apple's Macs. However, I've heard that some clones won't run System



All Mac clones are 100% compatible with their Apple cousins. However, some Macs, including Apple ones, require a special enabler to run the Mac OS.

7.5.5 or System 7.6. Are these clones really 100% compatible?

A In a word, yes. The compatibility issue you've described is one which affects all clones based on the "Tanzania" motherboard design. The board, designed by Apple, uses cheaper, more readily available components to reduce the cost of the machine. Consequently, all Macs based on this motherboard – whether they are from Apple or one of the clone companies – require a special enabler file to be present in the **System Folder**. This enabler is not currently part of the standard Mac OS install, but it will be as of System 7.6.1.

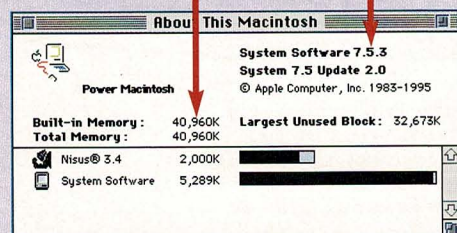
At the moment, this affects Apple's PowerMac 4400, Motorola's StarMax range, and the Computer Warehouse clones. All vendors plan to ship new machines with System 7.6.1 as soon as the UK version is released, which should be by the time you read this.

All clones are based on what are called motherboard reference designs from Apple. The design enables clone manufacturers to source different components and to add new features to the Mac, but without affecting compatibility. All clones are sent to Apple HQ in the US for

The do-it-yourself problem-solving guide...

One of the most common causes of problems on your Mac is Extensions or Control Panels clashing in your System Folder. It's easy to check if this is the case. Restart your Mac and hold down the [shift] key. Release the key when you get the message, "Welcome to Macintosh. Extensions

Amount of RAM installed System software version



off." If everything now works, then the problem is likely to be an Extensions conflict.

The only way to work out which item is the culprit is by trial and error. Remove a few Extensions or Control Panels, then restart your Mac, without holding down [shift]. Keep on doing this until the problem no longer occurs and you've found the offending software.

If this doesn't work, try rebuilding your Desktop. Start up your Mac holding down [command] and [option]. You'll get a message asking if you want to rebuild the Desktop. Click OK, wait for it to finish, and see if this solves your problem.

If you're still stuck, use the form on page 59 to write to us. We'll need to know a few facts about your Mac, so when you're in the Finder, select **About This Macintosh** from the **Apple** menu – the crucial things to note are shown left.



certification. If a machine isn't 100% compatible, it doesn't get to the market.

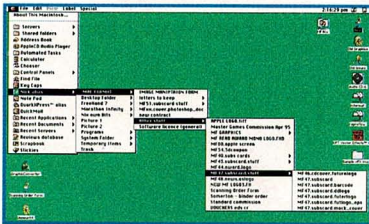
The price of progress

System 7.6

Q I have a Performa 6200 with 24Mb of RAM. Since installing System 7.6, my disks take an eternity either to load or to eject. I must now have the slowest hard drive there is! I thought 7.6 was supposed to be faster?

Mike Souter,
Wranglingham, Norfolk

A System 7.6 is indeed much faster and more stable on PowerPC-based Macs (that's all PowerMacs, as well as the Performa 5200, 5300, 6200, 6300, 6400 and 6500 series). But there are a number of things that can slow it down. The most important thing is to make sure you have updated your hard drive with the version of Drive Setup that comes with System 7.6. There were some changes in the way the Mac deals with files in 7.6, and it's



Putting an alias of your hard disk in the Apple menu means you can access your hard drive, but it may slow your Mac down.

Trouble-shooting keystrokes

Having a few keystrokes up your sleeve is incredibly handy when you run into trouble, and it makes you look dead flash in front of all your mates in the office. Ahem... yes.

Startup keystrokes – hold down during Startup

[shift] Turns Extensions off.

[command] [option] Rebuilds the Desktop files.

[command] [option] [shift] [delete] Forces your Mac to start up from a disk other than the internal hard drive (assuming you have another disk with a System Folder on it).

[command] [option] P R Zaps the PRAM (Parameter RAM – a chip inside your Mac, which stores the date, time and some details about your Mac's hardware).

[command] [option] T V Switches your Mac's screen display from the monitor to a connected television set (Audio Visual Macs only).

critical that you update your hard disk drive. The System 7.6 installer takes you through this process. Also, make sure that you are not using an excessive amount of Virtual Memory (accessed via the **Memory Control Panel**). You shouldn't use more than twice the total amount of physical RAM that you have installed in your Mac. In your case, don't set Virtual Memory to any more than 48Mb (2 x 24Mb).

What's more, unless you are on a network, also ensure that **File Sharing** (accessed via the **Sharing Setup Control Panel**) is switched off. When switched on, this feature enables other people on a network to access your files. Needless to

say, if you're not on a network you don't need this.

Lastly, you may find your Mac slowing down drastically on startup if you have lots of folder aliases in your Apple Menu. One example is making an alias of your hard drive and putting it in the **Apple Menu Items** folder within the **System Folder**. This forces your Mac to scan the hard drive directory for a list of the files it contains. This takes time, and, depending on the size of your hard drive and the number of files it contains, could add 30 seconds or so to startup time. If possible, you should only put folders with aliases of your applications and most used documents in the Apple Menu. **MF**

Ask MacAnswers...

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to: MacAnswers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW; or fax it to us on 01225 446019.

Name

Address

.....

.....

.....

.....

.....

Your Mac

(For example, Performa 475, 7600/120, PowerBook 5300):

.....

System version

(see About This Macintosh screenshot on page 63):

.....

Amount of RAM

(see About This Macintosh screenshot on page 63):

.....

Are you using Virtual Memory? YES/NO

(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing or Modern Memory Manager (PowerMacs only) turned on? YES/NO
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question.

Please include as much relevant information as possible, and continue on a separate sheet if necessary.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Jigsaw®



LONGER OPENING HOURS!
MON-FRI 8.30AM-6.00PM
SAT 10.00AM-2.00PM



Authorised Reseller

14" DISPLAYS FROM £139

JIGSAW MICRO 14" DISPLAY MONCOL-316
2YEAR WARRANTY 832x624.....£139 exVAT

JIGSAW MICRO 15" DISPLAY MONCOL-315
3YEAR WARRANTY 832x624.....£189 exVAT



PERFORMA 5320/120 16/1.2/CD/L2/TV/MPEG/28.8

• WITH FREE 28 SOFTWARE TITLES • LIMITED STOCKS AT THIS PRICE...SO HURRY!

• 16MB RAM • 120MHz • 1.2Gb HD • 4xCD • FREE EXTENDED KEYBOARD • 28 FREE SOFTWARE TITLES

120MHz PowerPC 603e, 16Mb RAM, 256k level 2 Cache, 1.2GB HD, CD-ROM, MultiScan 15" 832x624 Display, TV Tuner, TeleText/FastText, TV Remote Control, Video Input Card, Apple Mouse II, MPEG, Apple 28.8k Fax/Data modem, answerphone. Ext. keyboard all included! Apple Colour StyleWriter 1500 only \$59.99 ex VAT extra if purchased with this computer.

inc. VAT £939

£799 exVAT



£31.59 per month* Business Finance



28 FREE SOFTWARE TITLES INCLUDED!: At Ease, ClarisWorks, ClickArt, Hypercard Player, MacGallery, Mavis Beacon Teaches Typing, Millie's Math House, System 7.5, Spin Doctor, SuperMaze Wars, Thinkin' Things 2, Disney Aladdin Activity Centre, Apple InterNet Connection Kit, Daedalus Encounter, Grolier Multimedia Encyclopedia, In Bred with Rednex, Disney Lion King Story Book, Making Music, Mega Rock, Rap & Roll, Myst, The Way Things Work, & Disney Toy Story Preview.

NEW! 1440DPI

EPSON

AMAZING 1440 DPI



STYLUS COLOR 600.....£218 exVAT
STYLUS COLOR 800.....£319 exVAT
STYLUS COLOR 1520.....£589 exVAT
GT9500 SCANNER.....£515 exVAT

Tektronix

PHASER 140EF £675 exVAT



ADOBE POSTSCRIPT LEVEL 2, ETHERNET, **MASSIVE 24MB RAM**, AND 24BIT COLOUR

MacOS 7.6



MacOS 7.6 SOFUTI-421 £56.99 exVAT



VISTA S12

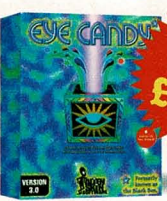
UMAX

9600 x 9600dpi MAX RESOLUTION
24BIT COLOUR A4 SCAN IN 18 SECS
12 MONTHS WARRANTY



ONLY £325 exVAT

EYE CANDY 3.0



EYE CANDY VERSION 3.0 £79.95 exVAT

PAINTER 4



FRACTAL PAINTER 4 £169 exVAT

WACOM GRAPHICS TABLETS



A5 ULTRA PAD & MGS £198 exVAT

ARTPAD II & DABBLER £98 exVAT

A5 ULTRAPAD£189exVAT

ILLUSTRATOR 6



ADOBE ILLUSTRATOR 6 £244 exVAT



Adobe Illustrator 6.0

PHOTOSHOP 4.0.....£345exVAT
PAGEMAKER 6.5.....£359exVAT
ATM DELUXE 4.0.....£45exVAT
DIMENSIONS£89exVAT
COLLECTION.....£529exVAT
PERSUASION 4.0£199exVAT

FREEHAND 7.0



FREEHAND VERSION 7 £274 exVAT

MACROMEDIA

DIRECTOR STUDIO 2£799exVAT
FREEHAND STUDIO.....£399exVAT
AUTHORWARE IS£1699exVAT

NEWTON

MESSAGE PAD 120/2.0 £155 exVAT



MESSAGE PAD 2000 £629 exVAT

MESSAGEPAD 120/2.0£155exVAT
MESSAGEPAD 130/2.0£436exVAT
MESSAGEPAD 2000/2.0£629exVAT

33.6 MODEM



GV 33.6 TELEPORT MODEM £116.99 exVAT



Tel 0115 916 5588



Fax 0115 942 2991

• Call Jon Royall or Lesley Jephcotte for Education Prices • sales@jigsawsystems.co.uk •

All contracts are subject to Jigsaw System Limited's Terms and Conditions of Sale a copy of which can be obtained by telephoning us on 0115 9165514 or by writing to us at the following address: Jigsaw Systems Limited, The Old Mill, High Church Street, Nottingham, NG7 7JA, England. All credit cards payments are subject to a surcharge.

All contracts are subject to Jigsaw Systems Limited's Terms and Conditions of Sale a copy of which can be obtained by telephoning us on 0115 9165514 or writing to us at the following address: Jigsaw Systems Limited, The Old Mill, High Church Street, Nottingham, NG7 7JA, England. All credit cards payments are subject to a surcharge.

17" DISPLAYS FROM £318

JIGSAW CS771 17" COLOUR MONCOL-303
 1 YEAR-ON SITE WARRANTY 1024x768.....£ **318** exVAT
 SONY 17" TRINITRON CPD1701 MONCOL-273
 WHITE BOX - LIMITED STOCKS!.....£ **399** exVAT



Jigsaw®



LONGER OPENING HOURS!
 MON-FRI 8.30AM-6.00PM
 SAT 10.00AM-2.00PM

Authorised Reseller

7200/90 3 PCI SLOTS & ETHERNET!

• 8MB RAM • 90MHz • 1.2Gb HD • CD • 3 PCI SLOTS • 10 BASE-T ETHERNET

LIMITED STOCKS SO HURRY!

- ✓ 90MHz PowerPC 601 processor
- ✓ 1.2Gb Hard Drive, 8Mb RAM, 4xCD
- ✓ 10 base-T EtherNet on-board
- ✓ Three Industry standard PCI slots

inc. VAT £821
£699 exVAT
 £27.66 per month* Business Finance

SAVE £££'s



★ AMAZING ★

THE OFFERS BELOW ARE ONLY AVAILABLE WHEN PURCHASING ITEMS ON THE LEFT OF THIS PAGE

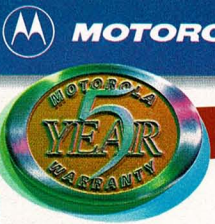
...APPLE STYLEWRITER
 1500 COLOUR PRINTER

£79.99
 exVAT (bundle price)



...APPLE STYLEWRITER
 2500 COLOUR PRINTER

£125
 exVAT (bundle price)



MOTOROLA STARMAX 3180 DT

AMAZING 5 YEAR WARRANTY - 1ST YEAR ON-SITE

- ✓ 180MHz PowerPC 603e processor
- ✓ 1.2Gb Hard Drive, 16Mb RAM, 8xCD
- ✓ 1Mb VRAM & 256K Level 2 Cache
- ✓ Ext. Keyboard & Mouse, 3 PCI Slots

inc. VAT £868
£739 exVAT
 £29.25 per month* Business Finance



4400/200 L2/2Mb VRAM/2Gb HD/10 BASE-T

• 16MB RAM • 90MHz • 1.2Gb HD • 8xCD • 3 PCI SLOTS • 10 BASE-T ETHERNET

- ✓ PowerPC 603e 200MHz processor
- ✓ 2Gb Hard Drive, 16Mb RAM, 8xCD
- ✓ 10 base-T EtherNet & 2Mb VRAM
- ✓ 256K Level 2 Cache & 2 PCI Slots

inc. VAT £1,174
£999 exVAT
 £39.54 per month* Business Finance

32Mb version...£1049exVAT



...IOMEGA 100MB EXTERNAL ZIP
 DRIVE & ZIP CARTRIDGE

£98.99
 exVAT (bundle price)



...IOMEGA 1GB EXTERNAL JAZ
 DRIVE & JAZ CARTRIDGE

£295
 exVAT (bundle price)



POWERBOOK 1400cs/117

• 12MB RAM • 117MHz • 750MB HD • FLOPPY • OPTIONAL CD

£500 FREE SOFTWARE WITH POWERBOOK 1400'S...

PCMCIA 28.8 MOTOROLA
 MODEM CARD
£99
 exVAT

inc. VAT £1,174
£999 exVAT
 £39.54 per month* Business Finance

ClarisWorks; Claris Organizer;
 Route66; Apple Internet Connection
 Kit software; Netscape Navigator;
 Claris EMailer Lite, Apple Remote
 Access; Apple GSM Connection Kit; &
 Macintosh Easy Open & DataViz Easy
 Open Translators.



PB 1400cs/117 16/750/6xCD.....£1199exVAT

Tel 0115 916 5588 **Fax 0115 942 2991**

• Technical Support Tel 0115 916 5510 • Technical Fax 0115 916 5590 • technical@jigsawsystems.co.uk





Sony monitors now come with a wider choice of peripherals.



Multiscan® sx range
Entry level 15" and 17" CRT displays.

Multiscan sf range
Mid range Sony 15", 17" and 20" CRT displays.

Multiscan se range
Top of the range 17" and 20" CRT displays.

As well as original Apple Macintosh systems, you can now choose from a wide range of 'Mac' clones to add to your Sony Trinitron® monitor. Whichever 'Mac' you opt for, adding a Sony monitor not only gives you the best screen performance, but also the assurance of compatibility with future systems... whichever way they may go. So to enjoy today's technology without needing to worry about tomorrow's, contact Sony...

Sony Information Technology Group
A division of Sony United Kingdom Limited.
Sony, Trinitron and Multiscan are registered trademarks of the Sony Corporation, Japan.
All other trademarks are acknowledged.

Telephone 0990 424 424
www.sony-cp.com

SONY®



Reviews

What's worth your cash? Make an informed buying decision with the help of our authoritative tests of products from new Macs to music multimedia.

In this issue

Hardware

Motorola StarMax 3420MT Plus	64
PowerMac 7300/200	65
PowerMac 9600/200	66
Alps MD-4000 printer/scanner	68

Creative and productivity software

"Home DTP": Print Artist 4.0 and Corel Print House	70
Spreadsheet 2000	74
Opcode Musicshop 2.0	78
Family Organiser	80
InfoGenie 2	82

Music multimedia 84

Discover some of the best titles around in our comprehensive music multimedia roundup	
Eve	88
Guitar Hits	89
The Rolling Stones' Voodoo Lounge	90
Jungle Activated	91

Multimedia

Stanley's Sticker Stories	98
Arthur's Birthday	100
Eyewitness Encyclopedia of Science 2.0	102
Chronicle of the 20th Century	103

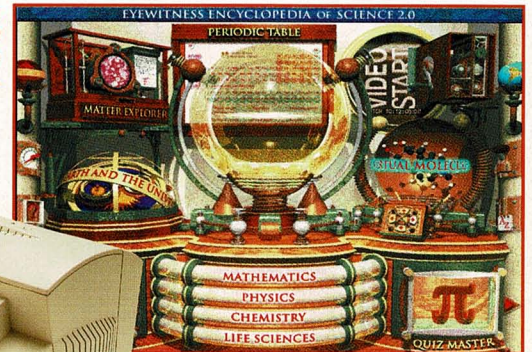
Games

Virtual Pool	105
The Sacred Mirror of Kofun	106
Torin's Passage	107
Lighthouse: The Dark Being	108

Shareware Central 110

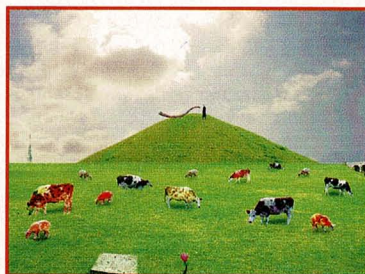
The latest low-cost and no-cost games and utilities snatched from the Internet

The lush updated version of Dorling Kindersley's *Encyclopedia of Science* aims to explore and explain all. Go back to the lab on page 102.



Alps' combined colour printer/scanner could be the ultimate space saver... See how it performs on page 68.

New Macs from Motorola and Apple put through their paces... Turn to page 64 for the full specs and for our detailed test results.



A comprehensive guide to Mac music multimedia, including Peter Gabriel's latest interactive CD-ROM, *Eve*. See page 84.

Why you can trust a MACFORMAT review

Every MACFORMAT review is designed to inform you in detail of what you'd be getting if you bought the product being reviewed, and help you decide whether it's worth your money. It tells you the essentials, without the jargon.

MACFORMAT never just reprints spec sheets, press releases or reports from overseas magazines. Every product reviewed has actually been tested by our own reviewers.

MACFORMAT has a cast-iron policy of editorial independence. We are not influenced by whether the supplier or manufacturer of a product advertises in the magazine. They find out the rating at the same time you do, when the magazine is published.

MACFORMAT does not review demos or unfinished programs. We review only the finished products you could buy yourself, to help you decide whether to buy or not.



We give clear buying recommendations, and rate products using the following scale:

- If a product earns a rating of 90% or more, it wins a MACFORMAT Classic Award. This means we judge it to be a benchmark, a standard-setter of its type.
- 80+% means excellent.
- 70+% means well worthwhile or great value, though not particularly outstanding.
- 60+% means good, but with a few

shortcomings or some limitations.

- 50+% means acceptable but flawed or seriously limited.
- A rating below 50%

means think carefully before parting with your money (but we do distinguish between a product that's "almost there" and one that's a waste of time).



This means there's a demo version, preview or sample on our Cover CD

The MACFORMAT info bar

PRICE £40	ON SALE Now	CONTACT Future on 01225 442244	WEB SITE http://www.futurenet.co.uk/
MAC Processor: 68030 • RAM: 8Mb	POWERMAC Processor: 603 • RAM: 8Mb	REQUIRES System: 7.5 • HD space: 5Mb • Screen: 640 x 480 • Colours: 256	

Price: RRP, inc VAT. Contact: The number to call for more information. Web site: Usually the maker's site, for more details. RAM: The minimum memory your Mac

will need to have. Free RAM is the requirement excluding the System. Processor: Check the table on page 118 for your Mac.



PRICE £1,879

ON SALE Now

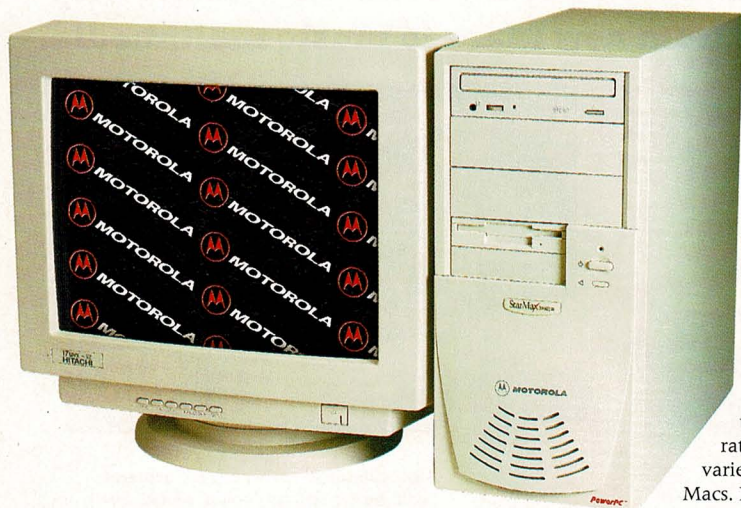
CONTACT Principal Distribution on 01756 704481

WEB SITE <http://www.mot.com/GSS/MCG/>

WARRANTY Five years

StarMax 3240 MT_{Plus}

Motorola is well known for making PC compatibles and the processor chips found in Macs, but what about its Mac clones?



What do Motorola and Apple have in common? Is it: (a) Motorola makes the processors found in all Macs; (b) Motorola makes Mac clones; (c) Motorola supplies Mac motherboards for other companies. The answer is all three. Motorola has long been established as a big PC compatible manufacturer, and last year it licensed the Mac OS from Apple and started making its own Macs.

The motherboard is a joint Apple and Motorola design known as Tanzania, and it can be found in the PowerMac 4400, Motorola's StarMax range, and the Computer Warehouse clones we reviewed in MACFORMAT 51. The StarMax 3240 MT Plus is based on a 240MHz PowerPC 603e processor which, sadly, is soldered directly to the motherboard and therefore not upgradable – a possible drawback in its later life.

On the outside, the StarMax is unremarkable, using a standard PC compatible style case – dull and grey. On the back are the usual Mac ports – printer, modem, ADB, and SCSI, but there's no Mac monitor port. A VGA port is provided, but if you have an Apple monitor you'll have to buy an adaptor to use it with this machine (around £15, from most Mac resellers). It does have PC compatible keyboard and mouse ports, but the value of these is limited since an ADB mouse and extended keyboard are provided with the Mac.

With its clothes off, the StarMax doesn't get any prettier, but the heavy metal skeleton is certainly robust and easily capable of withstanding the odd misguided foot when it's on the floor. Taking the case off requires a screwdriver

to remove the four screws at the back. Although security needs to be taken into account, we still prefer Macs that don't require tools to get into. With the guts of the Mac laid bare, the five PCI (Peripheral Component Interconnect) slots are clearly visible. These are mounted on a riser board which plugs into the Mac's motherboard, so PCI cards are fitted vertically instead of horizontally. Above this are three RAM slots, which use EDO-RAM DIMMs

rather than the fast-paged variety found in most PowerMacs. EDO-RAM DIMMs are faster and use less power, but the StarMax will accept only 160Mb of RAM – two 64Mb DIMMs and one 32Mb which comes pre-fitted. In addition, the StarMax has a pre-fitted 512K Level Two cache card and 4Mb of Video RAM for displaying millions of colours up to 1,280 x 1,024 pixels on screen. The specs are completed by an eight-speed CD-ROM drive and a 2.5Gb IDE (Integrated Drive Electronics) hard disk.

The documentation for the StarMax is laughably thin and consists of a couple of registration cards (one to send to Motorola, and one to Apple), a chart with set-up steps, and a Mac OS software licence (also the only software included). The shock of this is dulled by the five year warranty, which goes some way to making up for the lack of a good manual.

The StarMax 3240 is pretty fast. We

tested it with *MacBench 4.0* (see page 67), and timed some common *Photoshop 4.0* filters on a 30Mb file. It did a four-pixel Gaussian blur in 37 seconds and a Colour halftone filter in one minute 34 seconds. Not bad considering the PowerBase 240 (MACFORMAT 51), which also runs at 240MHz, took 55 seconds and one minute 47 seconds respectively.

Considering that it's based on a 603e, the 3240 MT Plus is a blisteringly fast machine – but it's not the cheapest available. Power Computing's PowerBase 240 offers similar features, is upgradable, comes with at least some bundled software, and costs £300 less. The StarMax's strength lies in its five year warranty – but a closer look reveals that it isn't quite as remarkable as it sounds. The first year is on-site, so they will come to you. The second and third years are return to base, where you take it along to an authorised repairer at your expense. If it dies in the fourth or fifth year of the warranty, you have to return it to the factory at your cost, where Motorola may decide to refund you the then "fair market value of the system" rather than repair or replace it. By this time, it could be worth a mere fraction of what you paid for it. Food for thought.

LINDSAY BRUCE

StarMax 3240 MT Plus

Attractive for corporate users, but for the home and small office you might want to look at what the other cloners have to offer.

Features	75%
Ease of use	85%
Documentation	60%
Value for money	78%

MF rating 72%

More clones

Motorola sub-licenses the Mac OS to other companies such as Computer Warehouse and Dabs Direct.

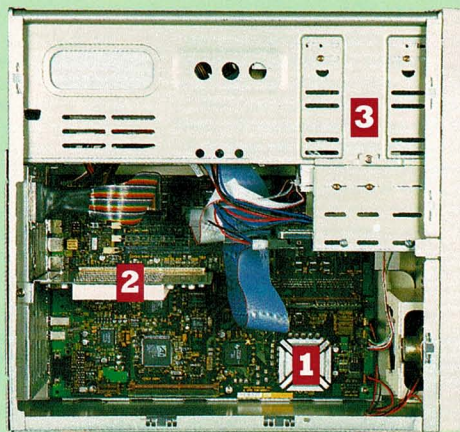
Motorola makes the motherboard and sells it on to another company, which puts it in a box with a hard drive and some RAM, and hey presto! Another Mac clone manufacturer.

Inside the StarMax 3240

1 240MHz 603e processor soldered to the motherboard – so it's not upgradable.

2 Five PCI slots for adding expansion cards such as a graphics, video or SCSI card.

3 Empty drive bays. One 5.25-inch for fitting a CD-ROM drive, for example, and one 3.5-inch for hard disk or Zip drive.





PRICE £2,483

ON SALE Now

CONTACT Apple on 0800 127753

WEB SITE <http://www.apple.com/>

WARRANTY One year

PowerMac 7300/200

The new range of PowerMacs from Apple all run at 200MHz or more – but can they compete with the clones?



Apple has been threatening to speed-bump its PCI PowerMac range for some time, and it has finally done it. The new range consists of the PowerMac 4400/200, 7300/200, 8600/200, and 9600/200. All four use PowerPC 604e processors running at 200MHz, so there isn't much to choose between them performance-wise.

The 7300 is second in the line-up and the first of the truly upgradable PowerMacs (the 4400 doesn't have a processor daughterboard, the 7300 does). The 7300 replaces the now discontinued 7200 and 7600 models. Outwardly, it looks much the same as these, but it lacks the audio-visual sound and video-in ports present on the 7600. In addition to the usual Mac ports, though, it does have microphone and headphone ports (albeit on the back), a monitor power-feed socket, and two Ethernet ports: one AAUI and one 10Base-T. If both are plugged in, the 10Base-T port is used.

As ever, the casing is made of plastic, which is less robust than steel, but it does have a distinctive Apple design about it and looks great. Two catches on the front underside open the case, the top of which slides forwards and off. Beneath is the classy "cantilever" skeleton, present in all Apple's previous desktop PCI PowerMacs. Towards the front is a 2Gb hard drive, floppy disk drive, and a 12x speed CD-ROM drive.

The plastic cover on the left hinges outwards to reveal three PCI slots (which will take cards up to 12 inches long) and the 200MHz 604e processor daughterboard, which you can swap out for faster processors as they appear. The board

design has been certified by Apple to take up to 250MHz processors, and it reckons it might go as far as 300MHz without additional modification. On the right side of the Mac is the power supply unit and drive housing. Two internal catches hold the housing in place, and, with these snapped back, it hinges up and out to the right to reveal the Mac's eight RAM and four Video RAM slots.

The 7300/200 comes with two 16Mb RAM DIMMs already installed, and it can take a maximum of 512Mb. (Apple doesn't recommend the use of 128Mb DIMMs, which would take it up to 1Gb.) Two of the VRAM slots are also filled, giving you a generous 2Mb to start with and enabling you to fit a maximum of 4Mb of VRAM for extra colours on screen or higher resolution. You'll also find a Level Two cache slot here, which comes filled with a 256K card for increasing the processor's performance.

Not expandable but certainly welcome is the dual SCSI (Small Computer Systems Interface) bus, with one internal and one external port. This means you can connect up to six external devices in addition to the internal drives. Unfortunately, though, the 7300 only has one spare internal 3.5-inch drive bay.

As we've come to expect from Apple, the documentation for the 7300 is excellent. It covers setting up, Macintosh basics, how to set up your office, and a hefty troubleshooting section covering hardware and software. You get both a printed manual and an Adobe Acrobat version on CD for reference. Bundled with the 7300 is the *Apple Internet Connection Kit* and *Microsoft Office 4.2.1*, which includes *Excel 5* for spreadsheets,



PowerPoint 4 presentation software, and *Word 6* for word processing. This is excellent for business, but not much good if you're a home user or graphic designer.

On test the PowerMac 7300 was speedy, but a little slower than we expected. It performed a four-pixel Gaussian blur on our 30Mb *Photoshop* file in 37.5 seconds, and the Colour halftone filter in one minute 21.5 seconds – quick, but we've seen faster.

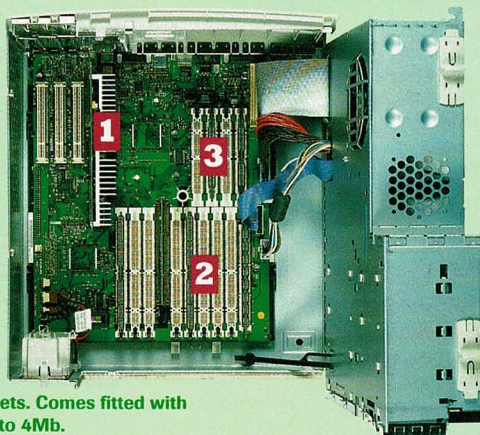
Overall, the PowerMac 7300/200 is great to look at and easy to use. What's more, it's fast and highly upgradable, but at just over £2,000, it may not suit your pocket. If you're on a tight budget, then you might want to take a look at a clone or the cheaper PowerMac 4400 (from under £1,000 to just over £1,500), foregoing the upgradability the 7300 offers. However, if looks, speed, and upgradability are important to you, the 7300 is a compelling machine. **LINDSAY BRUCE**

Inside the 7300/200

1 200MHz 604e processor daughterboard, upgradable at a later date.

2 Eight RAM DIMM sockets. Comes fitted with 32Mb and is expandable to 512Mb.

3 Four VRAM DIMM sockets. Comes fitted with 2Mb and is expandable to 4Mb.



PowerMac 7300/200

Fast, upgradable and good to look at. Not as quick as the 200MHz 604e spec might suggest, but pretty damn fast nevertheless.

Features	88%
Ease of use	90%
Documentation	94%
Value for money	85%

MF rating 91%



PRICE £3,055

ON SALE Now

CONTACT Apple on 0800 127753

WEB SITE <http://www.apple.com/>

WARRANTY One year

PowerMac 9600/200

The latest high performance Mac from Apple sports a revolutionary new case design – is the inside as impressive?



Ask any PowerMac 8500 or 9500 owner what annoys them most about their Mac and the top answer will be type 11 errors. A close second will be that expanding their Mac's RAM is a real pain. Apple's old tower case design meant that you had to spend ten minutes stripping the Mac's motherboard out just to fit extra memory, and then you had to put it all back together without any spare parts – a physical and mental challenge.

Those days are gone. The new tower case from Apple certainly looks impressive, and a lot of thought has gone into its design. It's about three inches wider at the base than the old case, and has a step in the top so that when you flip back the lid, it has somewhere to rest. The old case had six screws holding the lid down, and Apple has finally seen fit to get rid of these. Instead, the 9600's side pops out neatly when you push a large, vaguely translucent button on top of the Mac. The panel then lifts off to reveal the insides of the Mac. But hang on, this is where it gets really neat. Getting to the RAM no longer requires a screwdriver and lots of patience; instead the 9600 has adapted the 7300's design. You simply flip the Mac onto its side and snap two internal catches upwards. The Mac's power supply and drive bays then swing upwards through 90 degrees until they rest upside down on your desk. You can now see the entire motherboard, and access everything.

In contrast to the plastic exterior of the Mac, the skeleton is made of an extremely sturdy steel box. The motherboard

itself is remarkably uncluttered, and it's easy to see all the really important bits. The 200MHz 604e processor daughterboard sits in the middle and to the back of the board. Like the 7300, you can upgrade this at a later date when faster cards become available. Below that are six PCI (Peripheral Component Interconnect) slots for expanding the Mac's capa-

bilities. The bottom one is already fitted with an IMS Twin Turbo graphics card with 4Mb of on-board video RAM

which supports millions of colours, up to 1,152 x 870 pixel monitor resolution. The case will accept six 12-inch PCI cards – handy if you're into video editing, where the cards tend to be rather large.

Above the daughterboard and to the front of the case are no less than 12 DIMM slots for expanding the 9600's memory; it will take up to 768Mb RAM using 12 64Mb DIMMs, and two 16Mb DIMMs come pre-fitted for a basic 32Mb of RAM. The 9600 comes with 512Kb of Level Two cache RAM, but there's no card slot for it and it isn't expandable – a sad omission. It would have been better if Apple had provided a 1Mb cache, since it's not upgradable.

In the top half of the case you'll find the power supply and drive housing. A 4Gb internal hard disk sits at the back above the power supply, and a 12x speed CD-ROM drive at the front, along with two 5.25-inch empty drive bays for fitting extra hard disks or a CD-ROM burner, for example. It's all quite roomy and easy to fit extra drives, but a couple of extra 3.5-inch drive bays wouldn't have gone amiss.

In terms of external connections, the 9600 has standard ADB (Apple Desktop Bus), SCSI, printer, and modem ports. The monitor port is provided by the graphics card, and this lacks a VGA connection, which means a £15 adaptor (available from most Mac resellers) is needed if you have this type of monitor. Like the 7300, the 9600 also has microphone and headphone ports (still, rather stupidly, on the back), and AAUI and 10Base-T Ethernet ports.

The documentation for the 9600 is, unsurprisingly, up to Apple's usual high standard. It shares the same manual as the 7300, and you're provided with a separate technical specs leaflet which tells you all you need to know about the inside of your Mac and more besides. You'll learn how to set up your Mac and your office, all the Macintosh basics, plus there's a hefty troubleshooting section included, to help you over any hurdles you may run into. The bundled software consists solely of the *Apple Internet Connection Kit*, but there's no modem to go with it.

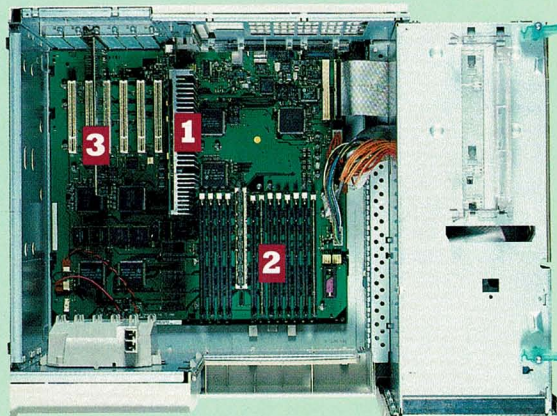
So, after all of that, what's the verdict? Well, there's no doubt that the 9600 is incredibly fast. We tested it on a 30Mb

Look out for...

Apple also makes a 233MHz version of the 9600, but the faster chips are in such short supply, so it was delayed and is only just available. The 9600/233 costs £3,522. A dual-processor version with two 200MHz 604e chips instead of one is also available, all for a mere £3,925.

Inside the 9600/200

- 1** 200MHz 604e processor daughterboard, upgradable at a later date.
- 2** Twelve RAM DIMM slots. Comes with 32Mb installed, expandable to 512Mb.
- 3** Six PCI slots, one fitted with IMS Twin Turbo graphics card with 4Mb of VRAM.





Photoshop file with 48Mb of RAM fitted to the machine and 40Mb of it allocated to the program. It raced through the four-pixel Gaussian blur in 32.5 seconds, and the Colour halftone filter in an amazing one minute and seven seconds – speedy, to say the least.

Looking at the whole picture, the 9600 has a lot to offer and is an impressive looking Mac. However, it doesn't have the extensive bundled software that many of the clones come with, and it has no speed advantage over Umax's Pulsars and Power Computing's PowerTowers. The extra £200-£300 that this Mac will cost you over an equally fast and expandable clone is a high price to pay for a nice doorstep. That said, if you're a committed Apple buyer, this could be just the Mac for you. **LINDSAY BRUCE**

PowerMac 9600/200

A beautifully made Mac, which is still, unfortunately, quite a bit more expensive than an equivalent clone.

Features	85%
Ease of use	88%
Documentation	94%
Value for money	80%

MF rating 84%

Adaptor

If you have an Apple monitor and want to use it with the StarMax 3240 MT Plus, or you want to use a VGA monitor with the PowerMac 9600/200, then you'll need an adaptor. Both types of adaptor cost around £15, and are available from most Mac resellers.

Testing times

We tested each of the Macs on review this issue (named in red in the table below) using *MacBench 4.0* and *Adobe Photoshop 4.0*. You'll find the results for the *Photoshop* tests in each review. The *MacBench* ratings below are expressed as a percentage related to the reference system, a PowerMac 6100/60. The higher the figure, the better the machines' performance. We've put all the results in one table for ease of reading, but we're not comparing them directly against each other as the machines are aimed at different markets. Instead, for comparison, we've included a machine of a similar spec to each model reviewed – the 7600 that is replaced by the new 7300/200, for example.

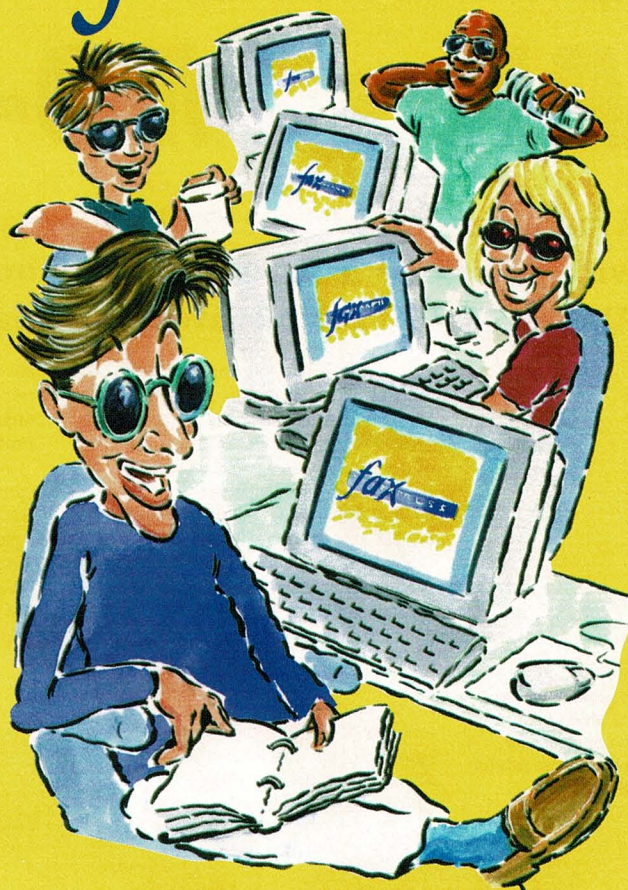
PowerMac 6100/60	CPU	100%
	FPU	100%
PC Power Base 240	CPU	309%
	FPU	320%
StarMax 3240 MT	CPU	340%
	FPU	298%

PowerMac 7600/132	CPU	251%
	FPU	243%
PowerMac 7300/200	CPU	317%
	FPU	403%

Umax Pulsar 200	CPU	408%
	FPU	404%
PowerMac 9600/200	CPU	390%
	FPU	402%

MacBench test suite:	Disk	Graphics	CD-ROM
PowerMac 6100/60	100%	100%	100%
PowerBase 240	205%	297%	247%
StarMax 3240 MT	208%	314%	260%
PowerMac 7600/132	212%	261%	327%
PowerMac 7300/200	201%	345%	509%
Umax Pulsar	323%	531%	352%
PowerMac 9600/200	171%	511%	482%

faxEXPRESS



cool, calm, collective!

Any office environment can be frenetic enough without having everyone's concentration broken by the demands of fax traffic.

In recent years, all over the world, FaxExpress has been solving this problem by working away in the background while the user prioritises on weightier matters.

FaxExpress is Mac dedicated software with a proven reputation for reliability. And now, with the addition of a new interface it's even quicker, just as easy to use and simple to install.

It provides multiple phone books, delayed send, status screen and with 256 gray levels, squeaky-clean graphics. Available in both single and multi-user versions, FaxExpress operates with all Mac applications.

For more information call your dealer or Glenwarne Limited on 01628 667702 Fax: 01628 667703

FaxExpress...Get on with it!

FaxExpress is a registered trademark of Glenwarne Limited.
Macintosh is a registered trademark of Apple Computer Inc.



PRICE £703.83	ON SALE Now	CONTACT Alps on 0800 973405	WEB SITE http://www.alps.ie/
MAC Processor: any • RAM: 16Mb	POWERMAC Processor: any • RAM: 16Mb	REQUIRES System: 7.0.1 • HD space: 5Mb (application), 20Mb (spool data) •	
Requires free external SCSI ID • SCSI cable/terminator (£15-20 from any Mac reseller)			

Alps MD-4000 Printer/Scanner

Alps' latest ambitious project aims to kill two birds with one stone with its combination printer/scanner. Alistair Dabbs puts it through its paces.

Ever wanted to buy a colour scanner and colour printer to add to your Mac set-up? It's easy – all you need is acres of desk space, two more power sockets, lots more cabling, several new software applications, and, quite possibly, a big wallet. Did we mention the inky fingers when you change print cartridges and the pot-luck approach to colour fidelity?

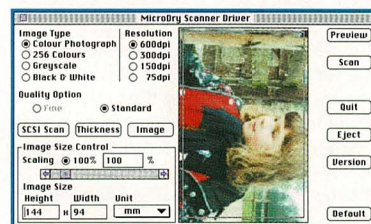
Well, Alps would like you to consider an alternative. The MD-4000 is a device that houses both a colour scanner and colour printer in one highly compact unit. All you need is the desk space and cabling resources you might normally allocate for a printer alone. The coloured ink is ribbon-

based, dry and smear-free, and the scanner and printer colour capabilities are linked in software by a *ColorSync 2.0* profile (see margin note).

Alps is not the first manufacturer to come up with the idea for a printer/scanner, and certain industry pundits predicted (falsely) that these machines would be all the rage a few years ago. Now, it seems, all-in-one office machines are making something of a comeback, and the MD-4000 has a lot to offer if you're a standalone Mac owner with limited space to spare.

When it's used as a printer, the footprint of the MD-4000 is 52cm wide by 42cm deep; but when not in use, the flat output tray slides back underneath the unit to reduce the depth to a mere 21cm. Compact indeed.

Because of the huge mass of data generated by scanning a colour image, the MD-4000 is connected to your Mac's external SCSI (Small Computer Systems Interface) chain. Since the SCSI port is much faster than the printer port, this makes for fast printing compared with normal colour printers attached through LocalTalk, and also for much easier set-up. In fact, plugging in and getting started is so



The MD-4000 does not force you to set up scan jobs blind, even enabling you to specify crops using preview thumbnails.

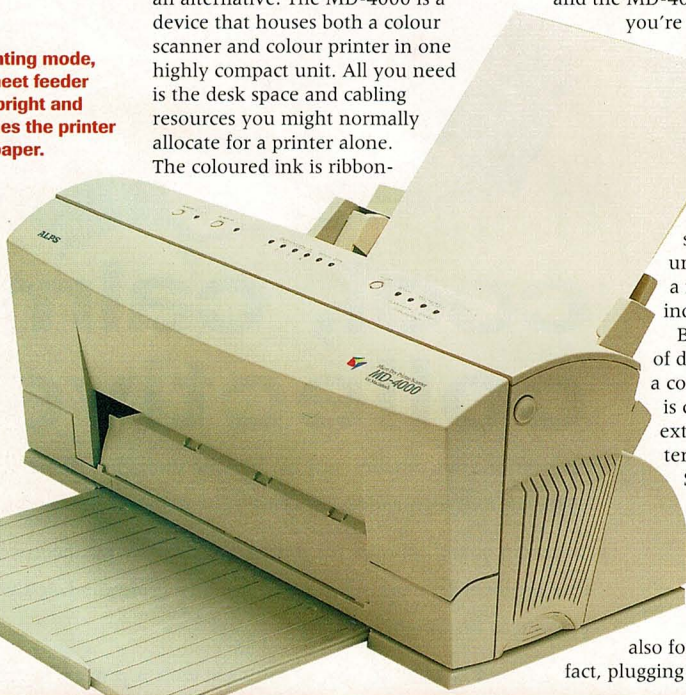
easy, you might forget to set an appropriate SCSI ID number for the unit. This gives the device a unique identity on the SCSI chain so that it isn't confused with, say, your internal hard drive. In total, the Mac supports eight devices on a SCSI chain, and it uses at least two of these already (three if you have an internal CD drive), leaving six free for use with external devices. Setting the SCSI ID is not easy on the MD-4000 – you need to flick four tiny DIP switches at the back in arcane combinations, explained only on page 116 of the MD-4000 user's guide.

Over the hurdle

This is your only hurdle, though. Once that's done, and the three-disk driver installation is completed, the machine becomes available in the **Chooser** like any other printer. The print driver, accessible through the **Print** dialogues in any software application, gives you control over the special features of the MD-4000 when used as a printer. You can, for example, make clear what type of stock you are printing onto, from plain and special papers to transparencies, card, and even iron-on transfer sheets.

The last-mentioned gives a clue to one of the major benefits of the machine: it uses Alps' Micro Dry ink technology. The

In printing mode, the sheet feeder sits upright and supplies the printer with paper.



Alps printer/scanner test results

Scanning:	Colour Photo	A4 colour	A4 greyscale	A4 line art
Alps	1m 51 secs	5m 21 secs	5m 22 secs	5m 22 secs
Umax S12	16 secs	42.5 secs	29 secs	16 secs

Printing: A4 colour page
Alps 4m 8 secs

LaserWriter 12/600 38 secs

Conclusion: Reasonably fast for a colour printer, and it produces quite good results, although not the photorealistic ones claimed by Alps. Scanning is lethargic, taking five times longer just to scan an image than the average flatbed. And that doesn't take into account the time you spend messing around with document jackets. Our tests were done at 300dpi; a 600dpi A4 scan on the Alps takes a mind-numbing 19 minutes, whereas most flatbeds would rattle through it in less than three.



Right: The Umax S12 was generally sharper and picked up more detail.

Left: The Alps produced rather blurred scans compared to the Umax S12 flatbed.





colour pigments are supplied from small ribbon cassettes which are outwardly reminiscent of those in low-cost thermal printers. Unlike cheap thermal ribbons, however, the Micro Dry ribbons provide the cleanest and most trouble-free cassette solution we have seen. Four cassettes are clipped into foolproof slots inside the front cover – one each for cyan, magenta, yellow and black, in any order – and these are loaded one by one to the print-head in the printing process.

Testing, testing...

After thorough testing with a wide variety of images and stock, the MD-4000 never once failed to load a cassette, never botched a job, and never smudged. When we looked inside the machine after testing, the interior still looked like new. If the messiness of conventional low-cost printing has always put you off buying a four-colour printer, Micro Dry ink technology could change your mind.

The speed of the print engine is also acceptably fast (see speed tests), bearing in mind that all colour printers are slow by definition. The upright paper tray at the back can hold up to 100 sheets of ordinary or special paper, and each sheet is fed through the printer four times for

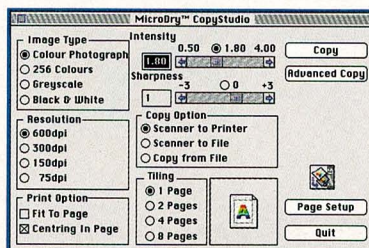
originals. This increases the footprint depth by another 15cm or so. The scanning head is totally enclosed inside the unit, while the original is passed through underneath it. But unlike sheet-fed, fixed-head scanning devices such as the Visioneer PaperPort, the MD-4000 will only operate if the scanning originals are held inside a special plastic jacket. Two jackets are provided in the box: one for A4 sheets, the other just large enough to hold a regular 6 x 4-inch photo.

This means that every time you want to scan something, you have to fiddle around with plastic jackets. If you misplace or damage the jackets, the scanner is useless until you can replace them. However, they do help protect your originals and lengthen the life of the scanner head. Like the printing, it's a compromise solution. You can't set up several scans to run as a batch, and you can't whip out an original halfway through a scan as you might with a flatbed device.

The way in which printing stock and scanning originals pass through the same entrance using the same tray can also be confusing. So, to scan directly to print – effectively, a colour photocopy action – you need to insert your original in its plastic jacket, run a scan process, replace the jacket and original with some paper, then run the print process. The image on the Alps box shows someone feeding in a photo at one end while a colour print emerges from the other; this is not what happens at all.

Thankfully, all this fiddling is made easy by a standalone TWAIN driver called *Micro Dry CopyStudio*. This presents you with instruction dialogues, telling you exactly what to do along the way. Even if you get it wrong, *CopyStudio* tells you what to do to clear the error, then continues from where you left off. We would have liked the dialogue windows to be accompanied by pictures or even custom audio alerts, but the text-only approach works fine. That's not to say it's bug-free, and the way you have to click on a button labelled **Print** to start the initial scan might cause a fair bit of head-scratching.

CopyStudio is not restricted to scan-print jobs. It also supports direct scan-to-file (PICT or TIFF) and file-to-print operations, just like conventional scanner software. *CopyStudio* gives you exten-



CopyStudio provides scan-to-print and scan-to-file controls, and easy Copy and customisable Advanced Copy options.



sive control over colour intensity, image sharpness, brightness and contrast, although these tools are limited by the actual capabilities of the hardware. For example, scanning at 600dpi gave better results than scanning at 300dpi, but did not necessarily give results as crisp as a typical 600dpi scan from a flatbed device. One major feature in the MD-4000's favour, though, is the inclusion of built-in *ColorSync 2.0* profiles for the unit as a whole: even if definition is often lacking, colour fidelity between scanned originals and printed output is very strong.

Another great idea is the bundling of the domestic photo-manipulation package *Adobe PhotoDeluxe*, with its special support for TWAIN scanning, image editing and colour printing to unusual layouts. If you use it in conjunction with the special papers available from Alps, including those iron-on transfer sheets mentioned earlier, greetings cards and metallic ribbon cassettes, you'll find the MD-4000 is undeniably a fun box of tricks for any home Mac.

Back in the office, the MD-4000 is strictly a colour print solution with scanning facilities if you've got no desk space left. It is not an efficient replacement for a full scanner, and absolutely no competition for a photocopier. It is also arguable whether the combo saves you any money, as you can buy both a 300 x 600dpi colour flatbed scanner and a truly photo-realistic colour inkjet printer for less than the price of the Alps MD-4000 alone.

But the MD-4000 is not trying to be a perfect solution for everyone. It's neither a high-end colour device nor a speed demon, and neither is it tagged with a bargain price. It's simply a space-saving, well-built and trouble-free machine that scans, prints and copies in full colour, and is also laughably easy to use. On that basis, there's really nothing else out there to touch it.

MF

Alps MD-4000

Takes up minimal desk space and solves light office and domestic Mac needs in one. If only it was faster – and cheaper.

Features	70%
Ease of use	80%
Documentation	80%
Value for money	65%

MF rating 72%

In scanning mode, the paper feeder flips down to feed the printer with your picture in a document wallet.

ColorSync 2.0

ColorSync 2.0 is Apple's colour matching software for more accurate colour printing and scanning. The system works by comparing accurate colour profiles of different printers, scanners and monitors, and then adjusting the image to compensate for each device's inaccuracies.

colour jobs, one for each process colour. This throws a greater emphasis on accuracy, since keeping all four colours in register while the paper is jerking its way through the device is a high-precision job. We noticed no major registration problems, given that the output is prone to a gentle moiré whatever you do.

The output quality is actually more of a compromise than we expected. If you are not used to colour print-outs from your desktop, you are likely to be very pleased. If, however, you have seen the remarkable colour proofing capability of cheap inkjets from Epson and Hewlett Packard, you will be less impressed with the MD-4000. The box and manuals describe the machine as "photo-realistic", but this is a big exaggeration: if your photos looked like this, you would return them. One still-life photo we printed on the MD-4000 from *Photoshop* looked like an oil painting in the end – fuzzy and textured, even with all print quality selections set to maximum.

Obviously it's the integration of a scanner that makes this machine so attractive, rather than colour printing alone. Pushing the paper-tray flat at the back turns it into a manual-feed tray for card, OHP slides or, indeed, scanning



PACKAGE Print Artist 4.0 **PRICE** £29.99 **ON SALE** July **CONTACT** Sierra on 0118 920 9100 **WEB SITE** <http://www.sierra.com/>
MAC Processor: 68040 • RAM: 12Mb **POWERMAC** Processor: any • RAM: 12Mb **REQUIRES** System: 7.0 • HD space: 8Mb • Screen: 640 x 480 •
Colours: 256 • **Extras:** 2x speed CD-ROM drive

Art for all

At last – two design programs that let out the Van Gogh in you. Rod Lawton checks out these two new “home DTP” programs for beginners...

Export strength

Like the clip art so much you want to use it in other programs? In *Print Artist* you can select a graphic and export it as a PICT or a JPEG.

Colour printers are getting better and cheaper. You can now get near photographic quality output from an inkjet that costs you less than £500. At the same time there has been a revolution in desktop publishing software – not the powerful professional programs used to put together newsstand magazines, but affordable budget software for home use.

It's a new sort of software, too, that's not based on the old principle of giving people a blank page, a list of functions and a reference manual. Instead, it's task rather than feature orientated. It starts with the things you want to do and then helps you achieve them.

Print Artist 4.0 and *Corel Print House* both combine drawing and DTP tools with large clip art libraries and pre-made document templates for creating signs, ads, greetings cards, notices and a host of other documents for home or office use. With these programs you don't need artistic talent because the pictures and the designs are provided.

The question is, how flexible are these programs once you get tired of their formulaic results? Will you have the creative freedom to

strike out on your own? And do the clip art libraries include images you could be proud of, or are they cheap and tacky? Are the templates fresh and vibrant, or are they as exciting as a rained-off test match? Well, that's exactly what we're going to find out.

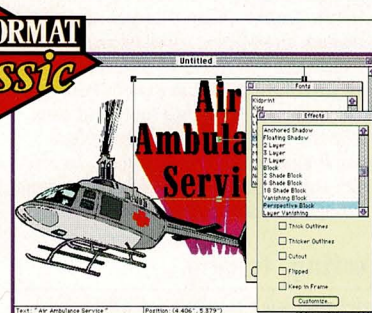
Cornucopias of clip art

Print Artist comes with no fewer than 10,000 clip art images. These are mostly editable vector-based PICT images, which means that you can scale them to any size you like and you can use a drawing program to dismantle them and modify them as much as you like.

There are many high-quality images here, too, although the categorisation is a bit hit-and-miss. It looks like the images have come from many different sources, so although half of the pictures are categorised according to subject matter, the rest fall under headings like “Pro Art” and “Doodlers”. The “Contemporary” images and “Modern Woodcuts” are especially good, while the rest of the images are far to middling.

The photos are mostly good, too, and encompass a wide range of subject matter. They're not high res, though, so you won't be able to enlarge them too much, even when printing on an ordinary desktop inkjet. There's noticeable dithering in some of them, too, where the colour palette's been reduced to cut down the file size.

On top of the images, you get 300 varied TrueType fonts, which should give



Print Artist can't match the *Corel* program's drawing tools, but the pre-supplied text and graphic effects are stunning.

you all the variety you need. There are 1,000 quotations, too, which is handy when you're stuck for a message to put in your DIY birthday card.

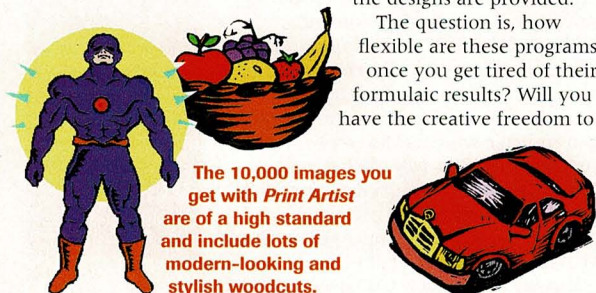
Corel Print House is beaten on the number of images supplied and the quality. The 5,000 editable vector images are well-made but boring and often crass. They're fine for kids, but for any kind of stylish professional design they're way off beam. The 1,000 photos supplied are on a par (in terms of numbers, variety and quality) with *Print Artist*'s. But even though 1,000 sounds a lot, the chances of finding just the right image for your document are modest at best.

The clip art browser is more fiddly to use than *Print Artist*'s – the previews are tiny icons and you can only search by category, not keyword. The basic organisation of the pictures is much better, though, so it's swings and roundabouts.

Like *Print Artist*, *Print House* comes with 300 fonts, although they're less exciting than the Sierra program's. However, the 1,000 messages you can add to your documents are surprisingly usable.

Tons of tools?

Print Artist might come out in front in the clip art war, but it's a different story when it comes to drawing tools – *Print Artist* doesn't have any. Graphics are imported “as-is”. You can resize them, skew them, distort them, flip them and even colour them in a crude kind of way,



The 10,000 images you get with *Print Artist* are of a high standard and include lots of modern-looking and stylish woodcuts.

Clearing out your garage with Print Artist

Okay, if this program's so good at producing convincing posters in minutes, let's see how it handles all the junk in our garage. It's been cluttering up the place for years, and it's got to go...



1 First of all, *Print Artist* asks us what sort of document we want to create. That's easy – we'll pick Signs.



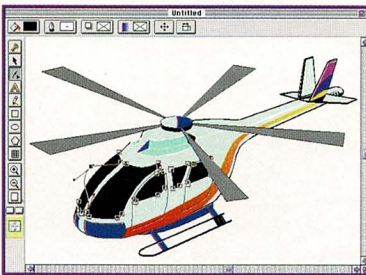
2 You get a list of template categories. Choosing one displays a list of samples in the bottom window. Select one and it appears in the big window to the right.



3 Now *Print Artist* asks us what we're selling. Easy. Just start typing in the scrolling window.



PACKAGE	Print House	PRICE	£32.00	ON SALE	Now	CONTACT	Corel on 0800 581028	WEB SITE	http://www.corel.com/
MAC	PowerMac only	POWERMAC	Processor: any • RAM: 16Mb			REQUIRES	System: 7.5 • HD space: 25Mb • Screen: 640 x 480 •		
Colours: 256 • Extras: CD-ROM drive									



Print House is really a drawing program at heart, and its comprehensive set of tools includes bezier curves and node editing.

but that's all. You'll have to find another program to do any picture editing.

Layouts are confined to imported graphics, text and certain basic shapes (circles, triangles, squares), but the controls are surprisingly versatile and quick to use. For example, graphics are displayed in frames which have easily identifiable grab handles for resizing, rotating and skewing. There's no need to change tools – you simply grab and go. You can also distort pictures into dozens of different shapes.

The text controls are amazingly comprehensive. There is a good selection of fonts supplied, but you can also apply different colours to the character outlines and fills, stretch text, justify it, display it in an arc, rotate it, skew it, and add a dazzling range of special effects.

It all adds up to a program that at first looks pretty spartan, but when you dig a

little deeper you discover a mass of bizarre and innovative options you just don't get in ordinary DTP packages, and all of these creative controls are available via palettes. Select your object, click on the effect, and it's done. It's that fast.

Corel Print House, by contrast, is sternly traditional. Corel also publishes *Corel-Draw!*, one of the most powerful drawing applications you can get, and it's no surprise to find a big set of drawing tools in this program. These include node editing tools, so that you can both dismantle the supplied vector clip art into its component items and reshape these items, too. If you were to strip away all the templates, clip art and wizards, you would be left with an extremely competent drawing application.

But if you want a no-skill-required design program for bashing out colour posters and so forth, you need software that can quickly assemble pictures and words into striking designs. *Print House* does this well enough, but not as well as *Print Artist*. If you ignore the far superior drawing tools, *Print House* is rather dour and limited, especially for artistically-challenged beginners. You can't carry out anything like the range of wacky effects on text or graphics that you can with *Print Artist*, and those effects you can apply are accompanied by lots of button-clicking and menu-picking.

It's a hard one to call. Judged in terms of traditional design tools, *Corel Print House* is in a different league, but if you want striking designs made fast and easy, *Print Artist* knocks it into a cocked hat.

Thousands of templates

Not everyone is comfortable with a blank piece of paper, and, even if you are, you may not have the time to create a design from scratch. Both of the programs have templates – *Print Artist* comes with 1,500; *Print House* has 1,100.

Quality is as important as quantity, so how do they compare in this respect? Well, *Print Artist*'s templates are modern, vibrant, striking and leave you itching to



try out designs of your own, while *Print House*'s are trite, old-fashioned and cheesy.

These two programs have very different styles. *Print Artist* might be simplistic in its approach, but its clip art and templates will appeal to style-conscious adults. *Print House* is a lot more grown-up in its approach, but the material that comes with it is unlikely to impress anyone over the age of 12.



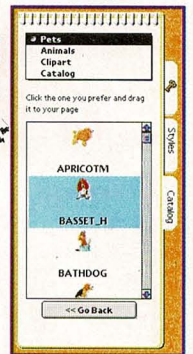
The paperwork

Both programs come with decent-sized paperback manuals.

Print Artist's is larger, and it includes instructions on how to use the program and a directory of clip art images printed as thumbnails. *Print House*'s manual might be smaller, but it's printed in full colour, which makes its own clip art directory that much more informative. However, apart from the briefest list of menus and tools, there are no instructions on how to use the application. To find this out you have to start it up and consult the context-sensitive on-line help. Given the program's extensive range of layout and drawing tools, wouldn't it have been better to devote the whole manual to these, letting you pick clip art via on-screen thumbnails?

Talking of on-line documentation, *Print House* displays a "notebook" alongside the document area. This provides context-sensitive explanations, instructions and buttons, which is all fine and dandy except that on a 14-inch monitor this takes up about a third of the screen, which is the last thing you need in a DTP package. (Fortunately, you can disable it by deselecting it in the **View** menu.)

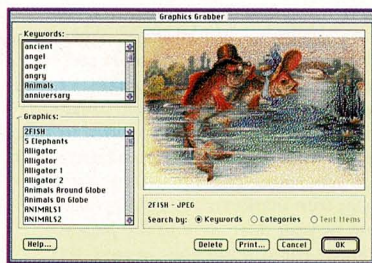
So, *Print Artist*'s blend of printed and on-line documentation is not as



Print House's clip art library is well indexed, but you have to work your way through three or four sub-categories before you get to see any thumbnails. Gnats' thumbnails, that is.

Life's too short

We had a few problems running *Print House* using its standard memory allocation settings under virtual memory when trying to load successive clip art samples. Even with enough memory, its performance on a 75MHz 6200 was sluggish.



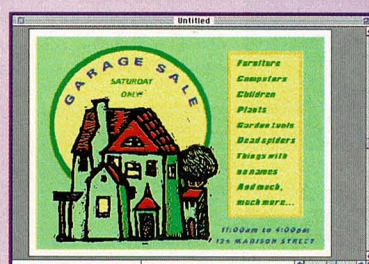
Print Artist's clip art browser shows you large preview images, and for each keyword there are lots of images.



4 Our new text is inserted into the sign. Let's change the picture of the house to one more like ours. Search the clip art library by keywords for different choices.



5 Let's change the font in the main text box to something chunkier. Click on the **Font** button to display the **Font** palette. Click on the text box, then on a font. Voila!



6 And here's our finished sign. It was easy to do and it looks pretty funky.

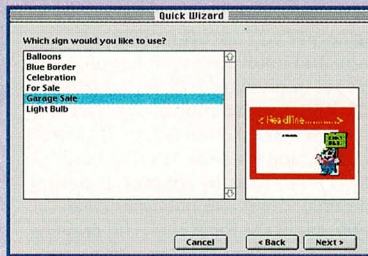


Selling your junk with Print House

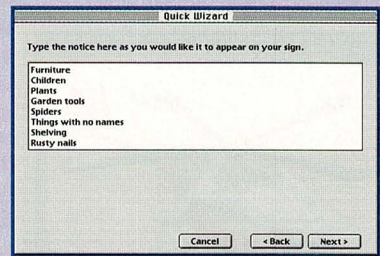
After creating a sign for a garage sale with *Print Artist*, let's see how *Corel Print House* handles the same job.



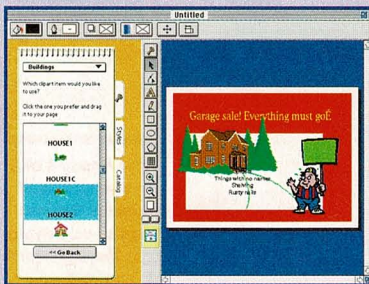
1 We've chosen to create a new Project, and now we have a choice of ways to go about it. We'll choose **QuickWay** so a Wizard guides us through the process.



2 After negotiating a couple of dialogues, we arrive at *Print House's* suggestion for a garage sale sign. Well, we may as well go with that.



3 Now type in the text. Keep on typing until you run out of things to say... or until you reach the bottom of the window. That's right, no scroll bars. Guess we'll just have to add the rest on the page.



at a selection of thumbnails. They're mostly about three pixels across, so you'll need to do some guesswork here.

4 Next, our sign needs a picture of a house, so let's check out the clip art library. This brings up the notepad display, where you have to negotiate through two or three pop-up menus to narrow the search before you arrive



5 There are no fancy palettes in this program. If you want to change font, you will just have to use drop-down sub-menus like everyone else.



6 With a little bit more re-aligning and tinkering about, here's the finished result. What do you think? (We know what we think.)

ambitious as *Print House's*, but it's simpler and more efficient.

Easy peasy

Both of these programs are aimed at people who want quick and easy DTP construction sets for all manner of everyday documents. Both provide images, fonts, sample documents and even wording to get you started, and both set out to make assembling your documents as quick and as painless as possible. It's just that *Print Artist* makes it that much quicker and more painless.

These programs approach the task from two different angles. You can tell

that *Print House* is at heart a drawing program that's had DTP tools, clip art, templates and a straightforward interface grafted on top. *Print Artist*, however, has started from first principles. The program feels as if it's been designed specifically for this job, rather than being an adaptation of another type of software. And it shows: it's quicker, easier, friendlier and more instantly logical than *Print House*. None of the tools or effects you want to apply is more than a palette away, and there's a bare minimum of sub-menus, dialogues and further options. If you could sum up the difference it would be that *Print House* gives you tools, whereas *Print Artist* gives you results.

The flip-side of this is that *Corel Print House* is ultimately better if you want more than the off-the-shelf effects in *Print Artist* (although that could take some time). Sooner or later you'll want to create your own pictures, your own layouts and your own designs, and you'll find that where *Print Artist* starts running out of steam, *Print House* is just coming into its own.

This is all down to the Corel program's drawing tools, which are powerful and flexible enough to create the most complex and elaborate designs; all it needs is time and the necessary artistic talent. As a first-rate drawing application, *Print House* has uses that go beyond knocking together greetings cards and posters.

Getting it down on paper

And this leaves us with the final stage in your document's construction – printing.

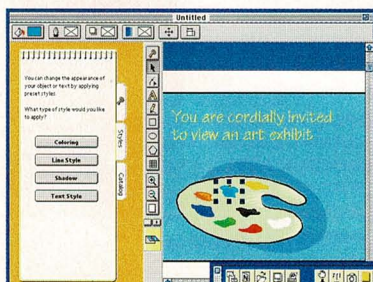
The quality of the output, in terms of colour saturation and sharpness, is down to your printer and its driver, but these programs can make life easier – and harder – in other ways.

For a start, in its quest to make life as straightforward as possible, *Print Artist* lets you choose only standard paper sizes. Unfortunately, this is an American program and the list doesn't contain A4; you can't adjust document sizes manually, either. However, via a dialogue of its own (apart from **Page Setup** and **Print**), you can set symmetrical or custom margins, print trim marks (more on this shortly) and fit your document to the page size. Handy. You can flip your images, too (which is useful for printing T-shirts, for example), print with thin outlines (useful for vinyl cutters and sign making) and rotate your document automatically, according to the orientation of your printer (landscape or portrait).

Print House doesn't offer niceties like these, but it does handle mail-merging, of all things. It's yet another indication that this is a more powerful program that's been adapted for this kind of use.

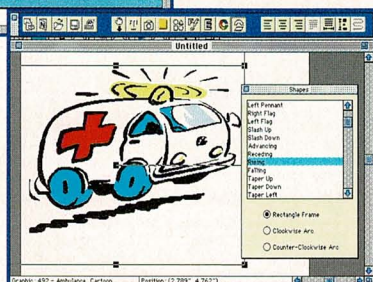
There is something missing in all of this, though. Both programs are designed for printing posters, greetings cards, banners and notices, but just how many posters, cards and so on have plain white margins? And how many inkjet printers can bleed images right off the page? So if you want full-bleed output you'll have to print on your normal paper and cut off the edges manually.

And there's another problem. Can your inkjet printer cope with heavy



Print House tries to be friendly by using an optional tabbed notebook to offer context-sensitive help and buttons for the actions you might want to carry out. It's all a bit stiff and sluggish, though.

Print Artist doesn't need to try to be friendly, it just is. All the effects and styles you might want to apply are listed in floating palettes using easily-understood descriptions.





card? And can you get card in the right finish for best quality output? You might find yourself having to print on coated inkjet paper to get the quality and then spray-mount the paper onto card or board to get the solidity you're looking for.

The point is that neither of these programs can necessarily print out ready-to-use posters, labels, business cards and so on. If you want to finish the job off properly, you can expect some glue-and-scissors work, too.

So, which is best?

Judging by the blurb on the boxes, these two programs do practically the same things. They both help beginners produce a wide range of colourful documents, they both provide templates, clip art, fonts and words, and they both promise everything you need.

In fact, they're quite different. *Print Artist* comes far closer to these ideals than *Print House*. It's simple to use, its templates and clip art have real flair, and it leaves you itching to experiment. *Print House*, by comparison, is dour, sluggish and uninspired. Ultimately, it doesn't really matter that it's got an excellent set of drawing tools because if that's what you want, you might just as well buy a dedicated drawing package.

The entry-level colour desktop publishing market is only just opening up and we can expect to see more competition in the coming months. For sheer style and single-mindedness of purpose, though, *Print Artist* is going to take some beating. **MF**

Poor old limeys

These two programs are from across the Atlantic and it shows in the clip art samples, templates and choice of stock sayings. *Print Artist* doesn't even support the A4 paper format, although most designs will need trimming anyway, so that's not a huge disadvantage.

Sierra Print Artist 4.0

Great clip art and templates, loads of special effects, and fast and easy to use. Few drawing tools, but does a program like this need them?

Features (inc. resources)	87%
Ease of use	95%
Documentation	86%
Value for money	95%

MF rating 90%

Corel Print House

A very good drawing program "re-purposed" as a beginner's DTP application, but not well enough. Clip art and templates are poor and the manual barely touches on the tools provided.

Features (inc. resources)	69%
Ease of use	71%
Documentation	70%
Value for money	85%

MF rating 74%

And ClarisWorks?

While we're talking about low-cost, modest DTP programs, let's not forget *ClarisWorks*. Most of us own it, it's perfectly capable of producing great posters, signs and cards, and it's got a decent drawing module. The tools aren't as extensive as those in *Print House*, but they're not far off – they're certainly well beyond *Print Artist's*. That said, you don't get thousands of clip art

images or templates to work from, and that – arguably – is the biggest advantage of the programs reviewed here.

Corel Print House and *ClarisWorks* have something in common, though, apart from similar drawing tools: neither can come close to the range of bizarre and striking text and graphic effects that you can achieve instantly in *Sierra's Print Artist*.

DESIGN • PRINT • APPLY • PACKAGE

PRODUCE PROFESSIONAL-LOOKING
CD LABELS & JEWEL CASE INSERTS

FOR £55 +VAT and P&P

- 1 Create your own artwork On Your Computer with NEATO Templates.
- 2 Print on Laser or InkJet using NEATO CD Labels & Jewel Case Inserts.
- 3 Using the NEATO Label Applicator, apply labels... PERFECTLY EVERY TIME!
- 4 Insert Tray Liners & Booklets created with CD-FACE™ to complete your package.



MAGNET
MAGAZINE
PRODUCT OF THE YEAR 1996

**JEWEL CASE
INSERTS TOO!**



KIT CONTAINS

- NEATO CD Label Applicator
- Set of Assorted Labels & Inserts
- CD-FACE™ including Design Software (Mac/PC) and Background Art for Labels & Inserts
- Disc & Jewel Case Templates for Popular Graphics Programs (Mac/PC)

NEATO LLC UK: 33 Hanger Lane • London W5 3HJ
Sales: 0990 561571 • Fax (0181) 932 0480
USA: 203.466.5170

Mastercard • VISA

www.neato.com



**SOLVE YOUR
COLOUR
COMMUNICATION
PROBLEMS &
HIT THAT
COLOUR FIRST
TIME!**

Use

'The Tint File'™

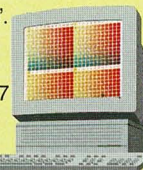
The definitive CMYK colour reference book

OVER 20,000 CMYK ILLUSTRATED COLOURS,

allowing the user to match and specify colours in the CMYK percentages. Colour samples from non-CMYK (special colours) or colours from a computer screen, are misleading. Overcome this by using 'The Tint File'. Select your colours at the outset by referring to the litho-printed 'Tint File' and the problems involved in colour specification will just go away! It is possible to accurately input percentages of CMYK and know what the litho result will be. Due to its unique design, you can easily match or choose any practical colour with the supplied colour selectors in seconds from the full range of CMYK. Any single - two - three - or - four colour percentage combination, including the Black, is illustrated from 5%-100%. Produced to high specification, with 28 pages plus cover, briefcase sized, measuring 345 x 250 mm, 'The Tint File' sets a standard for Publishers, Designers, Repro houses, Printers etc. **U K R.R.P. £75.00**

'TintMatch'™ Software.

allows you to reproduce Cyan, Yellow, Magenta combinations on your own house equipment as illustrated in 'The Tint File'. The software comes with four Litho printed Colour Wheels to calibrate your results. U. K. Rec. Retail Price £49.95 or purchase both for £99.95 plus VAT where applicable (£106.07 inc. VAT). For more information or to order 'The Tint File' or 'TintMatch' or both, Tel / Fax: 01222 708648
Internet: <http://www.netwailes.co.uk/tintfile> or write to: Tintmaster Publications 'Windrush', Sully Rd. Penarth, Cardiff, CF64 2TQ.





PRICE £93 ON SALE Now CONTACT Softline on 0181 401 1234 WEB SITE <http://www.casadyg.com/>
 MAC Processor: 68030 • RAM: 8Mb POWERMAC Processor: any • RAM: 8Mb REQUIRES System: 7.0 • HD space: 11Mb • Screen: 640 x 480 • Colours: 256

Spreadsheet 2000

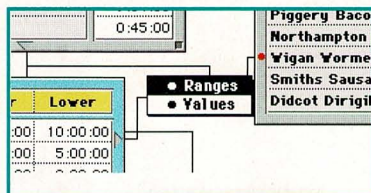
It used to be called *Let's KISS*, and it used to be a very clever, very different spreadsheet. Rod Lawton finds out if it's only the name that's changed...



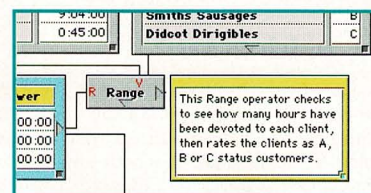
Save-disabled demo in the Demos folder

It had to be just about the worst ever name for a spreadsheet, *Let's KISS*, and no doubt Casady and Greene eventually felt the same way – hence the new title for version two. More than the name has changed, though, because this version contains a host of improvements and additions that make it better than ever. And we raved enough about the original...

Spreadsheet 2000 is, if you can imagine such a thing, an object-based spreadsheet. Instead of typing data and



Some of the operators require input from several different grids. To make sure you hook up the right grid to the right input, hold down the mouse button on the operator as you're connecting each grid, and a pop-up menu will list the alternatives.



You can add notes to your documents, as shown above, to give instructions to people who use them or to explain what the calculations do. They are free-standing boxes, which you can edit, resize and move as you wish.



formulae into thousands of identical-looking little boxes in a grid the size of Hertfordshire, you use individual grids connected to each other via operators.

The operators are like the functions in traditional spreadsheets, except that they act on whole grids rather than individual cells. These grids can consist of a single row, a single column, a single cell or many rows and columns – it all depends on the data you're working with. There are two types of grid, though. Input grids (coloured blue) are where you type in raw data, while output grids (coloured grey) contain the results of your calculations, and you can't edit these.

This is where some of the program's limitations start to become apparent. For example, let's imagine you want to set up a timesheet, like the one in our example walkthrough below, but one which can work out the starting time of any new job simply by checking the end time of the previous one. In an ordinary spreadsheet this is easy – you can set up three columns called "start time", "end time" and "duration". The cells in the "start time" column can simply copy the

contents of the "end time" cells in the previous row. But this is the bit that *Spreadsheet 2000* will have trouble with, because there's no obvious way to get the "start time" column to reference the cells in the "end time" column when they're not in an equivalent row.

Traditional spreadsheets, then, are better for complex interrelated functions, where input and output cells are quite hard to separate and where you need to reference cells that don't fit into neatly designed blocks.

Where it excels...

This is comparatively rare, though, because most people who use spreadsheets are working with simple blocks of data, and this is where *Spreadsheet 2000* excels (no pun intended). It's easy to separate and distinguish the variables and data you're working with, making it much easier for both you, your clients and your colleagues to understand what's going on. You can move the grids around on-screen, too, to make the relationships and your conclusions more obvious. You

Weekly timesheet	Monday	Tuesday	Wednesday	Thursday	Friday
Piggery Bacon Supplies	3:13:00	1:58		2:01	
Northampton Toad Farms		2:24	3:16		5:44
Wigan Wormery	1:02:00	3:11	0:39		1:30
Smiths Sausages	0:28:00		2:19	6:17	
Didcot Dirigibles			0:45		

One of the keys to understanding *Spreadsheet 2000* is to think in terms of "input" grids (blue) and "output" grids (grey). Input grids are where you type in your data, and output grids are the result of applying an operator. You can't edit the data in output grids.

Setting up a timesheet

The documents in *Spreadsheet 2000* are constructed in modular form. Here's how it works.

	Monday	Tuesday	Wednesday	Thursday	Friday
Piggery Bacon Supplies	3:13:00	1:58:00		2:01:00	
Northampton Toad Farms		2:24:00	3:16:00		5:44:00
Wigan Wormery	1:02:00	3:11:00	0:39:00		1:30:00
Smiths Sausages	0:28:00		2:19:00	6:17:00	

1 As an example, we'll set up a weekly timesheet for an ad agency that logs how many hours each day it spends on each client. To enter the raw data, you need to drag a grid onto the document, then add top and side labels and fill in your information. Don't forget to apply the Time format to the grid.

	Monday	Tuesday	Wednesday	Thursday	Friday
Piggery Bacon Supplies	3:13:00	1:58:00		2:01:00	
Northampton Toad Farms		2:24:00	3:16:00		5:44:00
Wigan Wormery	1:02:00	3:11:00	0:39:00		1:30:00
Smiths Sausages	0:28:00		2:19:00	6:17:00	

2 The next job is to total up the number of hours worked each day (just to make sure there's no slacking). For this you'll need to add a single-row grid and then drag the Add operator onto the document. All you need to do then is connect your input grid to the operator, and the operator to the output grid.

	Monday	Tuesday	Wednesday	Thursday	Friday
Piggery Bacon Supplies	3:13:00	1:58:00		2:01:00	
Northampton Toad Farms		2:24:00	3:16:00		5:44:00
Wigan Wormery	1:02:00	3:11:00	0:39:00		1:30:00
Smiths Sausages	0:28:00		2:19:00	6:17:00	
Daily totals	4:43:00	7:33:00	6:14:00	6:18:00	7:14:00

3 Don't forget to apply the Time format to the output grid. You should also double-click on the Add operator and select **Flow Top Label** – this adds the days of the week to the output grid. A good idea is to add a side label to it as well, so that it's obvious what all the figures mean.



Inside Spreadsheet 2000

This is unlike any spreadsheet you've seen before, so here's a quick guide to what's what.

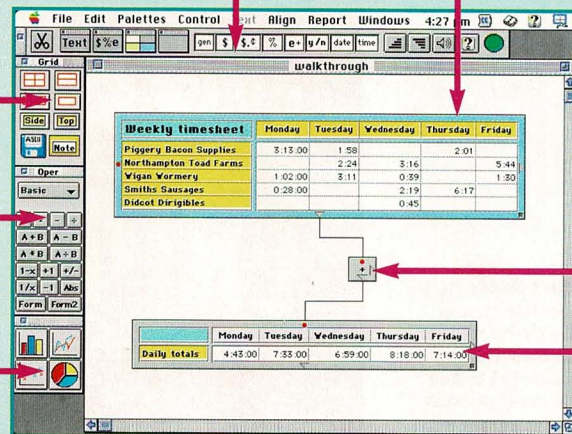
The toolbar offers quick access to text, format and background pattern palettes, plus quick drag-and-drop cell formatting.

Input grids are where you type your raw data. They're coloured blue to distinguish them from output grids.

You drag new grids onto your document from the **Grid** palette. You choose a grid according to the result you want.

You choose the operators you want from this palette. They're stored in themed sets, and you swap sets using the pop-up menu at the top.

The **Charts** palette enables you to quickly drag the appropriate chart type on to your document and link it to a grid.



Operators are equivalent to the functions in traditional spreadsheets. Here, though, you drag them off a palette and onto your document instead of entering them in a formula bar.

Output grids contain the results of calculations carried out by operators. They're coloured grey to show that you can't enter data manually.

Compatibility

Spreadsheet 2000 won't run on 68000 and 68020-based Macs or on an SE/30 without an external monitor. The Mac II, IIfx, IIfx and SE/30 also need the *Mode32* software patch, available free from the Connectix Corporation Web site at <http://www.connectix.com/>

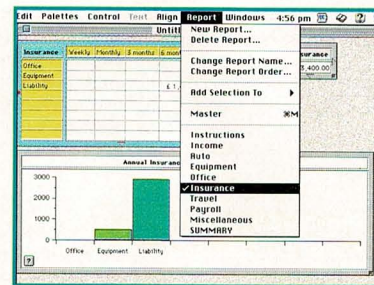
can also use reports (easily accessed via a drop-down menu) to add instructions or simplified summaries or to highlight important areas.

If you have a small screen you can use the program's novel "crunching" tool, whereby entire grids, or collections of grids, can be compacted into a single "custom operator". For example, if your

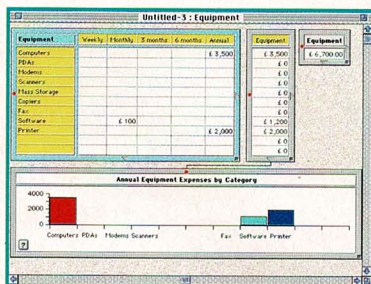
company's annual expenses grid takes up the whole of the screen, leaving no space for any financial analysis, crunching it into a single operator will leave the screen practically empty. Any time you need to check or edit those figures, double-clicking on the operator will open up the grid again.

Touches like these demonstrate the thought and originality that's gone into this program. The extensive use of palettes and the drag-and-drop editing and formatting are also a breath of fresh air after the stale sameness of traditional spreadsheets. You feel as if you're using a program that wants to help you understand your data rather than one that simply gives you a box of tools and leaves you to get on with it.

However, *Spreadsheet 2000* has some tough competition. *ClarisWorks* can create spreadsheets just as powerful, and you'll probably have a copy of it already (most Macs come with it). *Excel*, meanwhile, is bound to corner the professional market because it's pretty much the industry-standard spreadsheet application. But



Reports are one of the program's biggest plus points. They're rather like database "layouts", in that you can display just the information you want and no more.



You don't have to spend hours making complex documents because *Spreadsheet 2000* comes with dozens of prebuilt "solutions" that you can adapt for your own use. Very handy.

neither program can offer *Spreadsheet 2000*'s ability to assemble, analyse and communicate information clearly. **MF**

Spreadsheet 2000

Innovative object-based spreadsheet, great at assembling and analysing data, but less adept at complex interrelated calculations.

Features	98%
Ease of use	95%
Documentation	80%
Value for money	81%

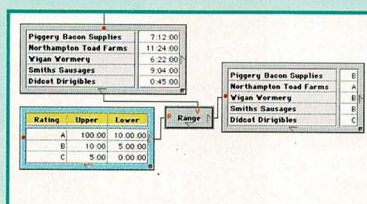
MF rating 93%

Who needs it?

Traditional spreadsheets are still more flexible, but *Spreadsheet 2000* is vastly superior at conveying information to ordinary people. It also offers an eye-catching way of selling proposals and costings to clients or superiors.



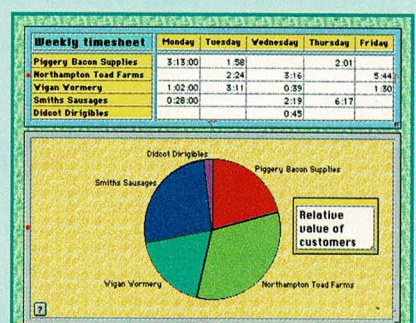
4 You can also add an output grid that totals up the number of hours worked for each client. If you drag a single-column grid onto the document then connect it to your data using the Add operator, the program will work out that you want to total the rows. (We used a single-row grid to total the columns automatically.)



5 Now's our chance to use one of *Spreadsheet 2000*'s new data-handling operators. By setting up a "range" grid, we can give our clients "A", "B" and "C" ratings, according to how much work we do for them. You do need to make sure the range grid and value grids are hooked up to the right inputs, though.

6

Now it's time to produce a cleaned-up report for the agency boss. This is one of the program's greatest strengths - you can create any number of "reports", each of which displays only chosen components of your spreadsheet. They still interrelate properly, though, so you can edit the data on screen and see the output reflected in the graph instantly.

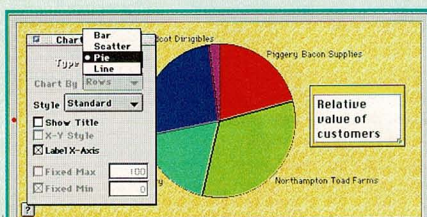




New features

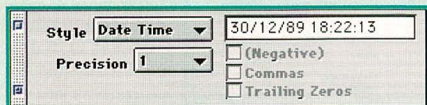
Spreadsheet 2000 is a much-enhanced version of its predecessor, *Let's Keep It Simple Spreadsheet*. Here are the highlights:

- 1 A whole new set of Data operators enable you to find specific data, extract data which matches your criteria, sort data, pick out your top three clients (for example) and use "ranges" for jobs like assigning "A", "B" and "C" ratings for exam percentages.



- 2 There's a new Chart palette to give you more control over any charts you add to your document. Just click on the [?] button in the bottom left-hand corner of the chart to display it.

- 3 The program now supports Date and Time formats, making it easy to include calculations like the one in our company timesheet (see "Setting up a timesheet" on page 74), or operators that can identify invoices more than 90 days old, say.



	Monday	Tuesday	Wed
	3:13:00	1:58	
		2:24	
	1:02:00	3:11	
	0:28:00		

- 4 The excellent auto-column-width command of the previous version has been retained (columns are adjusted to suit the cell in that column with the widest entry), but you can now drag the dividers between columns to adjust them manually, as you can in traditional spreadsheets.

Weekly timesheet

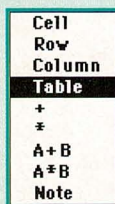
	Monday	Tuesday	Wed
Piggery Bacon Supplies	3:13:00	1:58	
Northampton Toad Farms		2:24	
Wigan		:02:00	3:11
Smiths		2:28:00	
Didcot			
Daily totals	4:43:00	7:33:00	6:59:00

- 5 If your output grids are to make any sense, they need labelling. Instead of having to do this manually, though, you can get operators to "flow" through labels in the original input grids. This means that if you need to update these labels, your changes are carried through into the output grids



- 6 You don't need to reach into your desk drawer to work something out before you type it in. Click on the relevant cell, press [command] E and the cell contents

will appear in the display of an on-screen calculator. Do your sums, close the calculator and the new value will appear in the cell.



bring up a newly-extended menu of common objects that you can insert.

- 7 Once you get the hang of *Spreadsheet 2000*, you'll be ready to shift up a gear with its various shortcuts – for example, you can [command]-click on a blank area of your document to

THIS MONTH IN
the internet magazine



.net

INTERNET EXPLORER 4

In-depth review of Microsoft's new browser

INTERNATIONAL PHONE CALLS FOR A PENNY A MINUTE!?!?

Use Internet telephony and cut your phone bill



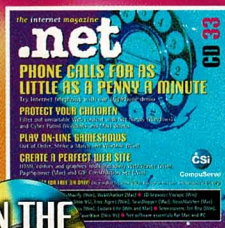
GAMES PEOPLE PLAY
Win a fortune (possibly) with on-line gameshows

USING USENET NEWSGROUPS
Your complete step-by-step guide to Internet discussions

56Kbps ACCESS IS HERE... AND IT WORKS

Upgrade your modem and become part of the Internet jet set

PLUS more expert advice for Net newcomers, try the Net for nothing with CompuServe, the next round of Internet regulation, more great Web site advice and another program-packed .net CD-ROM. Everything, as they say, you could ask for.



- PHONE CALLS FOR AS LITTLE AS A PENNY A MINUTE
- PROTECT YOUR CHILDREN
- PLAY ON-LINE GAMESHOPS
- CREATE THE PERFECT WEB SITE

June issue on sale Thursday 29 May
£3.95 with CD-ROM • £2.95 without

<http://www.futurenet.co.uk/>

tasha

COMPUTERS
290 Kensington High Street
London W14 8NZ

Tel: 0171 602 9444 ext 31

Email: kensington@tasha.co.uk

These products are intended for business use and prices exclude VAT. Goods subject to availability.

REDUCED

PowerBook 5300cs/100

Based on the PowerPC 603e processor, the Apple Macintosh PowerBook 5300 computers can handle everything from complex spreadsheets to text and graphics intensive reports. It has a 10.4" dual scan colour display. With two, built-in Type II-size PC Card slots, the powerbook can be customised to your specific communication needs, using the vast array of industry-standard modems, hard drives, network interface cards and other PC cards.



CPU	MHz	RAM	H/DISK	PRICE
603	100	8	500	£999

PowerBook 1400

Based on the PowerPC 603e processor, the Apple Macintosh PowerBook 1400 computers can handle everything from complex spreadsheets to text and graphics intensive reports. They feature a removable, modular CD-ROM drive giving you access to the wealth of resources available on CD, including the latest business productivity software and multimedia games. And their 11.3" colour SVGA displays provide outstanding bright, vivid colours.



CD	MHz	RAM	H/DISK	PRICE
optional	117	12	1.0GB	£1,199
8X	117	16	1.0GB	£1,399
8X	133c	16	1.3GB	£2,259

Power Macintosh 8600

If your profession demands a high-performance, expandable computer that's optimized to make complex work easy, choose the Power Macintosh 8600/200 system. This high performance computer includes built-in video-in and video-out capabilities in an innovative design. It includes features that make it the ideal choice for in-house publishing, media authoring, and technical applications. And because the processor is mounted on a removable card for easy, affordable upgrades to faster processor cards (as available), you can protect your investment for the future.



CD	MHz	RAM	H/DISK	PRICE
12X	200	32	2.0GB	£2,199

Family Mac 5400/5500*

Available in either platinum or black, the new Family Macintosh comes internet-ready and offers an impressive array of education and multimedia software, including titles from Disney Interactive, and now with two additional titles: Actua Soccer and Kai's Power Goo. With Apple's legendary ease of use, this great system now delivers up to 225MHz from its PowerPC 603e RISC Processor, 2GB hard drive, 12-speed CD-ROM, TV/FM radio tuner and 33.6Kbps modem* with fax, answering machine and telephony applications, Internet connection Kit, one 7" PCI slot.



CD	MHz	RAM	H/DISK	PRICE
8X	180	16	1.6GB	£1,049
12X	225	32	2.0GB	£1,589*



AppleCentre

or visit us on the internet at <http://www.tasha.co.uk>

MEGA DEALS

incredible
value
from
Tasha

- Warehouse Prices
- Authorised AppleCentre
- Show room
- In Stock now
- Collect same day
- Free technical support
- Friendly, knowledgeable People

20th Anniversary Mac

The limited edition Twentieth anniversary Macintosh is a futuristic entertainment centre that includes a computer, built-in TV/FM radio tuner, a full complement of video inputs and customised Bose speaker technology for the finest quality sound. In addition to the upright CD-ROM drive and 12.1 inch active matrix screen, the ultra-slim casing of the Twentieth Anniversary Macintosh houses a 250-MHz RISC PowerPC 603e processor, 32MB RAM, 256KB level-2 cache, 2MB video RAM, a 2GB hard disk drive, 1.4MB floppy disk drive and 33.6Kbps GeoPort modem. It also includes a cable adaptor for Composite Video, a keyboard with detachable trackpad, standard SCSI and serial ports. Apple's Internet Connection Kit which facilitates surfing on the Internet and Claris Works software are also pre-installed. A limited number of these computers will be available in September 97. To avoid disappointment place your order now. Call 0181-994 7424 for further details.



Power Macintosh 4400

The Power Macintosh 4400/200 computer combines high performance with a streamlined, cost-effective design that takes advantage of industry-standard parts to give you power Macintosh capabilities at a highly economical price. It is an ideal system for small and medium-size businesses, for home offices, and for running productivity applications in organisations of any size. It includes a built-in Ethernet connection, LocalTalk, networking capabilities, and all of the software tools needed to access the Internet.



E/net	MHz	RAM	H/DISK	PRICE
optional	160	16	1.2GB	£799
optional	200	16	1.2GB	£899
yes	200	16	2.0GB	£1,049

Power Macintosh 7300

The Apple Power Macintosh 7300 series combines affordability, high performance, and upgradability to provide an ideal system for small and medium-size businesses, for home offices, and for running productivity or multimedia applications in organisations of any size. It easily can be connected to an ethernet network. It includes both AAUI and 10BASE-T connectors and features a 12-speed CD-ROM drive. Software included (Microsoft Office 4.2)



CD	MHz	RAM	H/DISK	PRICE
8X	166	16	2GB	£1,699
12X	200	32	2GB	£2,099*

WorkGroup Server 7250

This is first time an Apple WorkGroup Server has ever been available for less than £1,499. Yet it gives the performance and reliability features you would expect from Apple.



- 256K level 2 cache
- 3PCI slots
- Built in Ethernet for faster data transfer over network
- AppleShare 4.2

CPU	MHz	RAM	H/DISK	CD	PRICE
601	120	16	1.2GB	4X	£1,499

REDUCED

PowerBook Duo 2300c/100

Provides a 9.5", backlit, active-matrix colour display for easy viewing in up to thousands of colours. It is the smallest, lightest PowerBook computer, and gives you the flexibility to carry everything you need. The Duo also comes with the PowerBook Mobility Bundle, a combination of communications, compatibility, power management, security, file-transfer and entertainment Software and built-in modem*.



CPU	MHz	RAM	H/DISK	PRICE
603e	100	8	750	£999
603e	100	20	1.1GB	£1,299*

PowerBook 3400



- Brings the fastest processor technology ever to a powerbook system and 256 level 2 cache
- PowerPC 603e processor
- New larger 12.1" active matrix Display
- Multimedia capability
- 16-bit Video out
- 4-speaker sound system
- PCMCIA slots

CD	MHz	RAM	H/DISK	PRICE
6X	180	16	1.3GB	£2,899
6X	200	32	2.0GB	£3,749
12X	240	16	3.0GB	£4,399

Power Macintosh 9600

The PowerMac 9600/233 system is quite simply the highest performance Macintosh available today. So whether you're a publishing professional, a multimedia master, or simply someone who enjoys existing on technology's cutting edge, you will find that this sophisticated system can help you do exactly what you want to easily, effectively, and efficiently.



CPU	MHz	RAM	H/DISK	PRICE
604e	200	0	0	£1,899
2X604e	200	32	4.0GB	£3,199
604e	233	32	4.0GB	£2,899

Apple Creative Studio Power Macintosh 6500



- TV/FM Tuner
- Video in Card
- Video out adapter
- Avid Video editing
- Built-in 33.6 modem
- Internet Kit
- Level 2 cache

CD	MHz	RAM	H/DISK	PRICE
8X	180	16	1.6GB	£1,699
12X	225	32	2.0GB	£2,099*



PRICE £92.83	ON SALE Now	CONTACT MCM on 0171 723 7221	WEB SITE http://www.mcm.co.uk/
MAC Processor: 68020 • RAM: 8Mb	POWERMAC Processor: any • RAM: 16Mb	REQUIRES System: 7.01 with a Mac, System 7.1 with a PowerMac •	
HD space: 8Mb • Screen: 640 x 480 • Colours: 256 • Extras: MIDI interface • one or more MIDI devices • printer if you want to print scores			

Musicshop 2.0

How well can you record, edit, play back and print music on your Mac with a budget-priced program? Ian Waugh goes Musicshopping...

Have you been waiting for a low-cost introduction to music recording and editing? *Musicshop* is the new program from Opcode, the developer of the more professional *Vision* and *Studio Vision* sequencers. It has the look and feel of *Vision*, but it's very much a cut-down version designed for the beginner, or for anyone who doesn't need all the bells and whistles of the more sophisticated programs. Installation is very easy, and, thankfully, *Musicshop* doesn't use the hard disk install copy protection system used by *Vision*, which, to be frank, is a pain in the behind.

After installation, the next step is to configure the program to your music system. The best way to do this is by using the OMS (see below), and it pays to ensure that you set this up properly from the start.

Musicshop 2.0 supports up to 32 tracks and MIDI channels, although you will probably need two sets of MIDI modules to play all 32 tracks, as most devices can only play 16 parts at a time. You do the setting up in the **Track Setup** window, where you assign tracks to MIDI devices and MIDI channels. Typically, one sound module would be assigned to the first 16 tracks and another to the second 16.

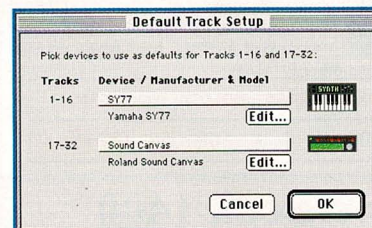
Musicshop also enables you to select

sounds by name rather than by number and, again, these are set up in special **Name** windows, which can reference settings made in the OMS and read files produced by *Galaxy*, Opcode's librarian. It can take a while to get it sorted, but once it's done, selecting sounds is a lot easier. It means you can forget about which sound is in which sound module, and on which MIDI channel. All you need to do is select a name from the pop-up trumpet icon above the track numbers.

Record of note

Once all the setting up is done, you can start recording and arranging on the program's two main screens. The **Notation** display shows music on the staff and the **Graphic** display shows notes as oblong bars on a grid. You can toggle between the two screens by clicking on a button. If you can read music, then the **Notation** window is ideal. The program prints good-looking scores, too, but it doesn't support music symbols or lyrics, so its usefulness in this area is limited.

In the **Graphic** display, you can have a list of the notes' names down the left of the screen or a piano keyboard. The displays are neat and you can easily move notes by clicking and dragging. When you move the pointer over a note in

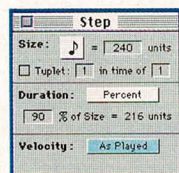


Before you begin, decide which sound modules you want to use for the two sets of 16 tracks.

either edit window, it changes to an up/down or left/right arrow. If you then click and drag, you can change either the pitch, the position or the note length.

The track numbers are down the left of the edit window and clicking on one brings it to the fore. You can display a number of tracks at the same time by holding down [shift] and clicking, and you can give each track a different colour to make it easier to differentiate between the notes in the **Graphic** display.

Recording is just a matter of selecting a track, clicking on the **Record** button and playing your MIDI keyboard. You can enter notes in step-time, too, one at a time. Set the required parameters of the note in the **Step** window and press a key on the MIDI keyboard. After that, it's



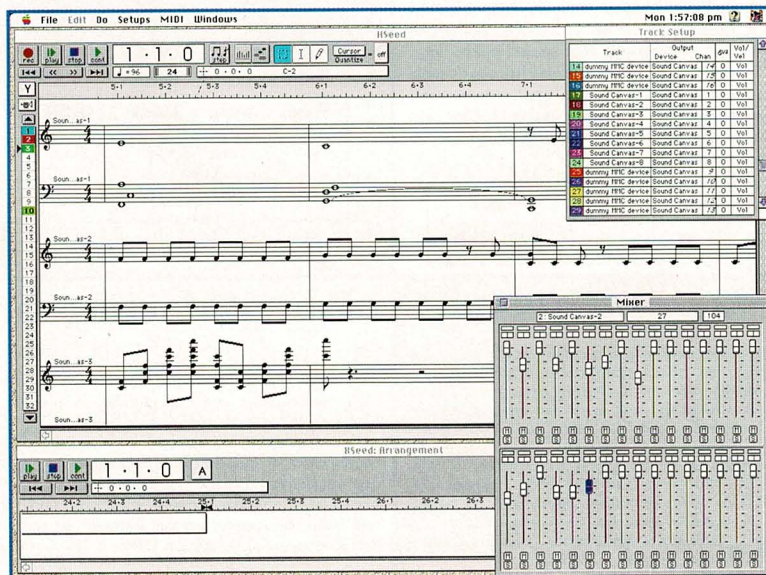
The **Step** window is used to set the parameters for notes recorded in step-time.

OMS

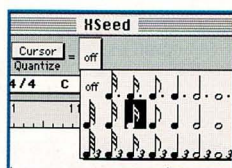
The OMS (Open MIDI System) is Opcode's alternative to Apple's MIDI Manager, and it has become so popular that it is supported by all the major sequencing programs. In fact, you can obtain a free copy from Opcode's Web site at <http://www.opcode.com/>

OMS bridges the gap between MIDI applications and MIDI hardware. OMS-compatible applications use OMS as a driver to communicate with the MIDI hardware. It also provides a central location for defining and storing details of your MIDI system. Enter details of the MIDI devices – the names of the sounds, their MIDI channels and how they're connected – and every OMS-compatible device will access the information, so you only need enter changes to your system once.

OMS also handles the system's timing, so you can run several OMS-compatible applications at the same time, and it facilitates the use of MIDI interfaces with several MIDI ports such as Opcode's *Studio 4* or *5*. The initial set-up procedure, however, although essential, can take a little time. You'll have to read the manual to do it properly, and it's not something you'll want to skimp on.



Musicshop can display notes on a staff and has a mixer for creating real-time mixdowns.



You can select Quantise Values from a pop-up menu in the two main edit windows.

simply a case of adjusting the settings, playing another note and so on. This is a very fast way of entering complex music lines – you can select note durations from the Mac keyboard and it's not hard to work up a fair speed entering notes.

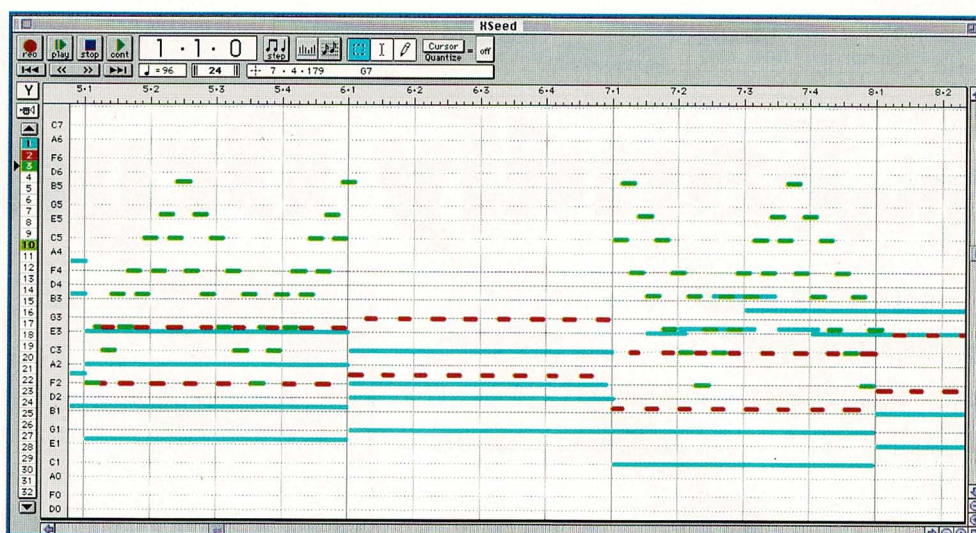
Musicshop has a **Quantise** function, which moves notes onto certain divisions of the beat. It helps tidy up sloppy playing and is essential for displaying music correctly on the staff because musicians never play music *exactly* as it is written. However, the program lacks a partial quantisation function, which moves notes part-way towards the beat, helping to correct poor timing while retaining some human feel.

Strip show

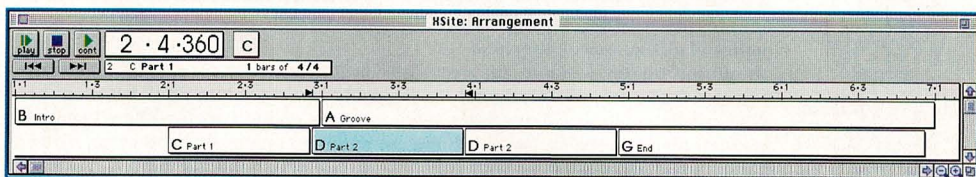
You can open a **Strip Chart** below either of the editors, and this shows controller information such as pitch bend, modulation, pan and volume. It can show any MIDI controller data and display note velocity, system exclusive data, tempo and patches, too. An Event editor would give better control over some of this type of data but the **Strip Chart** handles it surprisingly well.

There is a range of tools for editing the data within *Musicshop*, and you can draw in pitch bend curves or pan data, for example, either free hand or with straight line and curve tools. A **Thin** function (part of the **Strip Chart**) eliminates some controller events, which saves memory and speeds up operation. For example, aftertouch and pitch bend data can be reduced with no noticeable effect on the output.

You can record up to 25 Sequences (other programs may call them patterns, tricks or recordings). These are simply a collection of 32 tracks, each with its own name, length, tempo and time signature, and they can be linked in the **Arrangement** window. This enables you to con-



You can display and edit notes on a grid, as well as via traditional notation.

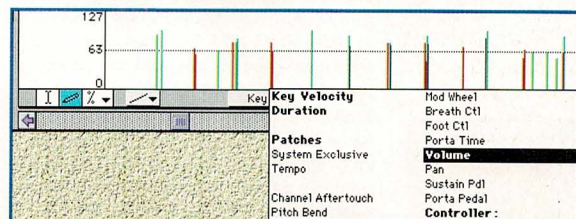


In the Arrangement window, you can link music sections and layer them so that two play at one time.

struct music in small sections such as intro, chorus, verse, ending and so on. It's often easier to work this way than to create one long piece, linear fashion. It also means that you can use the same Sequence several times, which is useful for repeating the chorus, for example. You can also play two Sequences at the same time. Other features include a **Mixer** window, where you can set the volume and pan position of each of the tracks and mixer movements can be recorded into a piece.

The manual is well written and well laid out, with lots of diagrams. It contains a tutorial, which is, perhaps, just a little too brief. The rest of the manual describes the windows, menus and functions, and you'd be well advised to read it carefully to familiarise yourself with all the program's features.

Even though *Musicshop* lacks an Event editor (which we think all sequencers should have), it can still perform many complex edits. It is also short on processing functions such as facilities to modify notes, limit velocities, randomise parameters and change one type of MIDI event



The Strip Chart enables you to display and edit all types of MIDI controller data.

into another. The major sequencers are replete with these but if you're a beginner, you won't miss them.

Musicshop is, after all, an entry-level program and a good one at that. It's pitched at a good price, and has enough facilities to satisfy you if you're using a music program for the first time and don't need in-depth facilities.

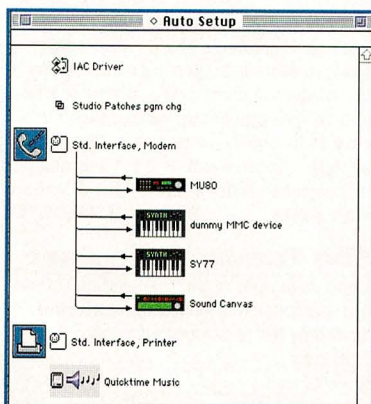
MF

Opcode Musicshop 2.0

Excellent starter program and good value for money, although short on features.

Features	74%
Ease of use	82%
Documentation	88%
Value for money	92%

MF rating 84%



Opcode's Open MIDI System stores details of your MIDI system which any OMS-compatible application can access.

New in 2

Musicshop 2.0 requires OMS 2.3 (supplied) and can play back using Apple's QuickTime Musical Instruments Extension. It supports 32 tracks and channels (rather than the 16 in v1), and you can perform most edit functions in real-time during playback. Any region can be looped for recording or playback, and **Multichannel Record**, accessed through the **SetUp** menu, enables *Musicshop* to record on several MIDI channels at once.

Several enhancements have been made to the

edit windows. Selecting a patch from the **Patch Selector** (the trumpet on-screen pop-up icon) automatically inserts a program change number into the track. The quantise settings have been simplified for ease of use and the **Strip Chart** now uses bold type to show which types of data the track contains.

The program now has a comprehensive on-line Help system and you can attach cute sticky notes to the Help pages.



PRICE £19.99 **ON SALE** Now **CONTACT** Mosaic Computers Ltd on 01789 299010 **WEB SITE** <http://www.mosaiccomputers.co.uk/>
MAC Processor: any • RAM: 4Mb **POWERMAC** Processor: any • RAM: 4Mb **REQUIRES** System: 7 • HD space: 13Mb • Screen: 640 x 480 • Colours: 256 •

The Family Organiser

Could this database-like program spell the end for tatty old Filofaxes and fangly-dangly PDAs? Get yourself organised.



Save-disabled version in the **Demos** folder



Family Organiser has a predictably friendly opening screen. You click on the bee to get busy.

Additionally...

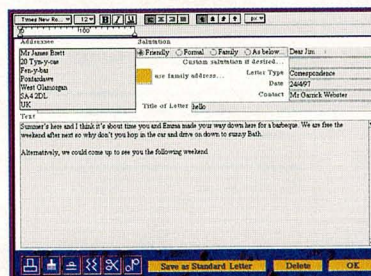
You can increase the capabilities of *Family Organiser* by purchasing certain add-on modules. For instance, the Social Connections module will help you to plan parties, while the useful Card and Gift Manager makes sure that birthdays are never forgotten. There's also a CV Profiler and a Home Asset Register.

Personal Data Assistants, those natty handheld mini-computers, seem to be all the rage with the upwardly mobile classes at the moment. With oodles of gizmo appeal, they're a ubiquitous pocket accessory for any wheeler-dealer around the globe.

A less expensive option, however, is to use your Mac to store the names, phone numbers and addresses of all your contacts. And that's exactly what *The Family Organiser* aims to help you do. It doesn't come complete with the diary functions of a handheld PDA, but does include a very nifty contacts database which can store all sorts of information on your friends and relatives. Letter templates and a basic word processor are also included, so you can easily import details from the database directly into name and address fields on a letter, type in your missive, print it out and mail it off.

Organiser's database capabilities are impressive. You arrange entries into households or organisations, inputting addresses and phone numbers. Within each household are sub-screens for each person living there, with fields for birthdays, as well as rankings for how well you know the individual. Are they, for instance, "Very Special", "Infrequent" or "Outer Circle"-type relations? You can even paste in pictures of your friends and relatives, assuming you've got them scanned in or captured on PhotoCD.

Each person you keep information on can be linked to the other people they know who might be in your database. Your sister might be friendly with your



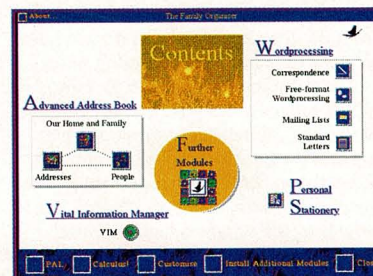
The word processor section is basic, and this isn't how your letters appear in print.

neighbour's fiancée, and in that eventuality you can set up a link between the screens on both people. There's even the option to rate how well they get along on a scale of one to ten!

Linked to all the entries on individual people is a section called the Vital Information Manager. Here you can make more factual entries covering each person's emergency contacts, medical information and passport and banking details. Though it's not quite an M15 filing system, there's a lot of scope for building up files on all your friends and relatives.

Sadly, some of the other modules included in the program aren't so useful. The word processing section, for some curious reason, doesn't work on a WYSIWYG (What You See Is What You Get) basis. Instead, all the fields plucked from your database entries appear in boxes across the top, while you type your text into a box below. If you wish to see the page as it will appear on a print-out, you have to click a button for a preview.

Speaking of printers, the program also blocks out all the pull-down menus of your basic Mac Desktop. Hence, if there's a printing problem and a box comes up



The main screen is functional, but hardly very imaginative.

telling you to refer to the PrintMonitor, you can't access it – the Applications menu, usually available from the icon in the top right-hand corner of the screen, cannot be accessed.

The inclusion of a metric/imperial measurements converter might come in handy at home, but it doesn't compensate for the loss of the usual advantages of the Mac OS, such as WYSIWYG and pull-down menu control. The Play and Learn module, however, will be handy if you have young children – it enables you to print out learning sheets such as times tables and alphabets for them.

On the serious side, business stationery is also included, so if you're running your own business you could use *The Family Organiser* for sending out invoices or labelling envelopes. At a pinch, it might serve for managing household accounts too... but here *ClarisWorks* would do just as well.

Overall, the database module is excellent and will certainly save you setting up your own personal information file in *ClarisWorks*. It, in itself, is well worth the modest asking price. However, the whole package is manacled by its mediocre word processor, so getting information out of the database and applying it when you're writing correspondence isn't as easy as in *Claris* – or as easy as it would be with a more flexible WP. Then again, it is easier to write a letter with this than with a PDA.

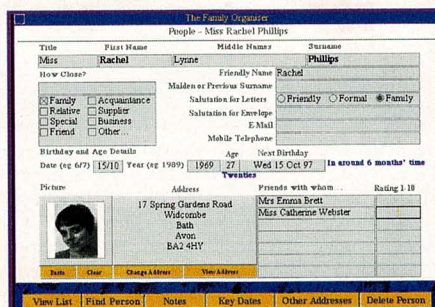
GARRICK WEBSTER

The Family Organiser

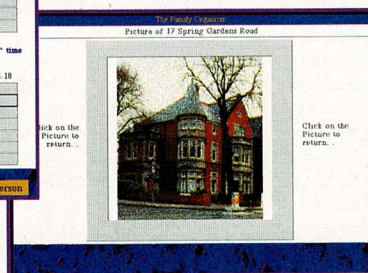
Good value, and easier than setting up your own personal information database, but limited by the poor word processor.

Features	58%
Ease of use	85%
Documentation	70%
Value for money	78%

MF rating 74%

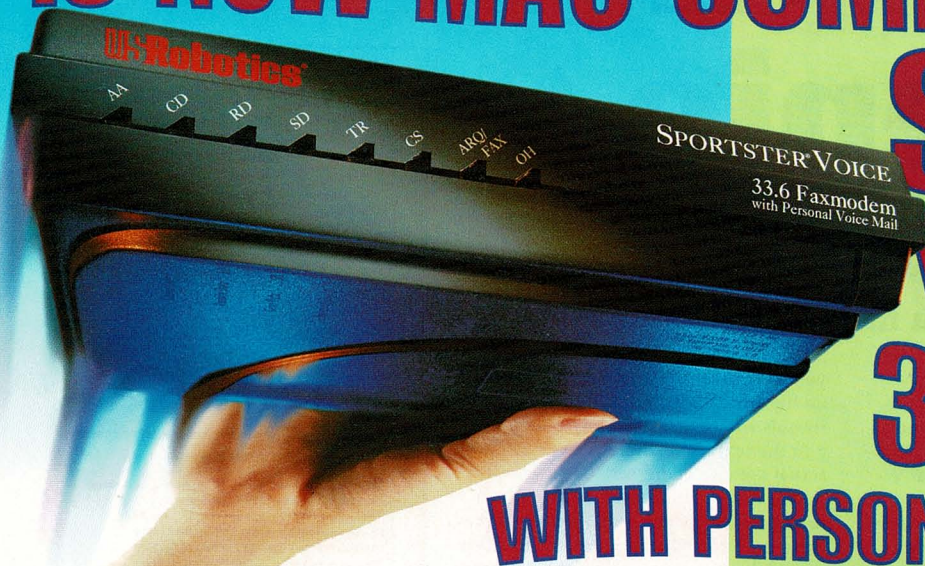


Left: The excellent database enables you to store all the regular info on your friends and relatives, plus loads more, should you... er, forget.



Right: You can even illustrate your files by pasting in pictures of your home and the people that live in it.

THE WORLD'S No.1 MODEM IS NOW MAC COMPATIBLE- SPORTSTER VOICE 33.6 MAC WITH PERSONAL VOICE MAIL



**NEW
LOWER
PRICE!**

The new Mac compatible Sportster Voice 33.6 Mac faxmodem from U.S. Robotics provides Internet access and data speeds of up to 33.6Kbps plus E-mail, fax and voice mail facilities[†]- all in one compact unit. Sportster Voice Mac can also be upgraded to x2- the new technology from U.S. Robotics, to give you Internet download speeds of 56Kbps over ordinary analogue lines.*

Multiple voice mailboxes store telephone messages via your Mac, which can even be retrieved remotely- when you're out at another location. The speakerphone facility allows you to use your Sportster as a hands-free telephone- providing the ultimate communications system for your home or office.

Apple Mac compatible software and cables are included allowing you to be up and running within minutes of taking it out of the box.

Sportster Voice 33.6 Mac faxmodem- Internet Ready with:

- Internet access at up to 33.6Kbps- 56Kbps with x2 upgrade (chargeable)*
- Free .net/Yell Guide to the Internet
- Free Communications Software
- Free Cables and Connectors
- Free Lifetime Technical Support
- Free 5 Year Warranty

Sportster Voice 33.6 Mac faxmodem with Personal Voice Mail

WAS £199

£149
NOW

RRP Inc. VAT**
External version only

Sportster® Voice

Sportster®- the World's No.1 Modem from U.S. Robotics

[†] A soundcard, with audio cable, powered speaker or headset is required to utilise all voice features including the hands-free speakerphone facility.

* x2 upgrade pricing and availability details to be announced.

All Sportster Voice Mac faxmodems are supplied with an x2 registration form.

Supporters of x2 Technology at 56Kbps- Netcom, Cable Online, AOL, UUNET PIPEX and CompuServe all use U.S. Robotics equipment to provide their On-line Services

FIVE YEAR
5
WARRANTY

AVAILABLE
ACROSS EUROPE



For further information call the U.S. Robotics sales team on

FREEPHONE 0800 146813

QUOTE CODE MF077U

U.S. Robotics®

The Intelligent Choice in Information Access

www.usr.co.uk/mformat/

**RRP Price excluding VAT. £126.81

U.S. Robotics Limited, 220 Wharfedale Road, Winnersh, Wokingham, Berkshire RG41 5TP



PRICE £64.63

ON SALE Now

CONTACT Softline on 0181 401 1234

WEB SITE <http://www.casadyg.com/>

MAC Processor: any • RAM: 2Mb

POWERMAC Processor: any • RAM: 2Mb

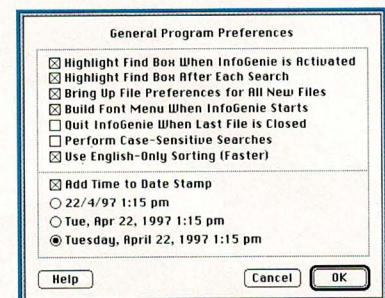
REQUIRES System: 7.0 • Screen: 640 x 480 • Colours: 256

InfoGenie 2

If you think databases have to be complicated, then think again... Does this latest information-handling program pack the power you need? We investigate...



The URL tools work with Netscape Navigator and Internet Explorer. Click the icon on the right to go to a Web site, and the one next to it to store a site in your datafile.



InfoGenie is built for speed, and the Preferences dialogue enables you to customise it to your way of working.

can click on a single icon to load the Web site of your choice.

Other new features include AppleScript support (as well as instructions and sample scripts), the ability to clone windows (making it easier to copy information from one record to another), multiple datafile searching and various interface enhancements and changes.

At heart, though, InfoGenie 2 has changed little since the original version. It is still a simple-to-understand database application, but as nearly every new Mac comes with ClarisWorks (which includes database software), it's difficult to think of a reason to buy this, especially at such an inflated price.

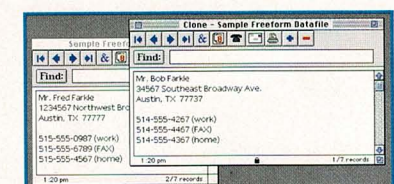
ROD LAWTON

InfoGenie 2

Fast, friendly and simple-to-use database application – ideal for beginners, but lacks power and costs too much for what it does.

Features	55%
Ease of use	93%
Documentation	90%
Value for money	37%

MF rating 65%



To move information, you can now "clone" the current datafile, display the source and destination records simultaneously, then drag and drop the information.



Limited demo can be found in the Demos folder

Information overload!

InfoGenie 2 can import whole text files as single records (up to a 32,000-character limit), making it perfect for archiving and searching letters, e-mail and even whole magazine articles.

Had your Mac for a long time? Then you're sure to remember QuickDEX and Super QuickDEX with fondness. If you wanted to store any sort of day-to-day information on your Mac without worrying about any of the jargon associated with "proper" databases, then these programs were inexpensive, fast, and so simple they made you smile.

InfoGenie could be called "child of QuickDEX", and we gave it a lukewarm review back in MACFORMAT 37. This was because Macs have got faster (any database application finds information quickly now), rival database applications have got easier and cheaper, and you can now get programs tailor-made for your daily needs (like Claris Organizer, say). But can InfoGenie 2 turn the tide? What does its simple approach to data handling have to offer today? And does it boast enough new features to make it worth upgrading to if you already have the original version?

InfoGenie can create two distinct types of database – freeform and field-based. Freeform databases date back to QuickDEX days, when each record was just a single mass of text – no separate fields for names, telephone numbers or whatever other information you wanted to store. It's a wonderfully simple system, and finding text in a freeform database doesn't take noticeably longer, even though more information is being searched. It gives you more flexibility when you're inputting your data, too.

Freeform databases do have limitations, though. For example, if you're searching for all the business contacts

you have in London, any search based on the word "London" will turn up records where you've simply mentioned it in the text somewhere, as well as actual London addresses.

This is why field-based databases can sometimes be useful, and InfoGenie makes these easy, too. You're prompted to name your fields when you create the database (InfoGenie calls them "datafiles") and the file produced lists field names in a panel on the left and the fields themselves alongside to the right of the window.

Head to head

But this is where InfoGenie starts to look underpowered. Even the most basic database application (the database module in ClarisWorks, for example) supports multiple layouts, complex search criteria and, most importantly of all, displays records that match your search criteria as a "found set". InfoGenie, on the other hand,

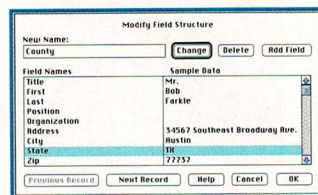
can't manage any of this. And when you search for all your contacts called "Jones", you have to keep pressing [return] to cycle through the found records until you reach the one you want.

There is a work-around, in that you can save a subset of your

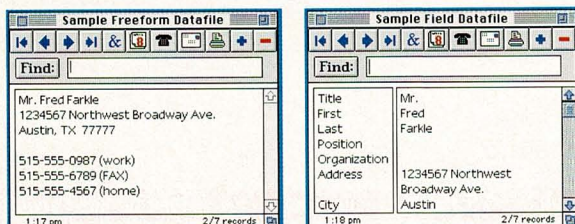
records as a separate datafile and choose reasonably specific criteria in the process, but it's a slow and ungainly way of doing what other applications can achieve easily. And although InfoGenie can search multiple datafiles, this isn't enough to make up for its general underpoweredness as a search engine.

There's another problem. InfoGenie's freeform datafiles might be wonderfully simple and might still be worth buying the program for... except that any database application can do the same trick. Set up a database with a single, large field and you have a freeform database.

Can InfoGenie 2 add enough features to make it worth considering, though? Well, it does now link directly with Explorer 2 or Navigator 2 (and later versions) so that you can "grab" Web site titles and URLs into a URL datafile. You can also copy text from the page into the same record, if you like, or make notes of your own. And from within the same datafile, you

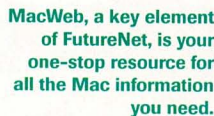


Field-based datafiles are easy to create and you can modify the field names and their order later on.



InfoGenie 2 supports two types of datafile. Freeform ones are ideal for information that doesn't fit into a predefined format, while field-based files are better for analysis and more structured searches.

How to find the latest Mac information on FutureNet.



One of Europe's busiest Web sites, FutureNet offers a whole on-line world at the Web address **<http://www.futurenet.com/>**

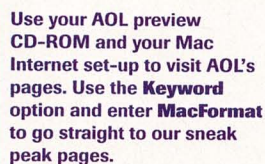
The **Games** link takes you to FutureNet's GameNet area, where you'll find a great selection of Mac game reviews.

What's New gives you regular updates of the latest Mac software releases.

You'll find the Ultimate Macintosh, a massive directory of Mac Web links, under Links.

MacWeb has in-depth articles on hot Mac topics from graphic design to the Net itself.

Your favourite Mac magazine is coming to AOL.



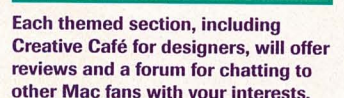
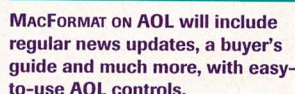
Already one of the US's top service providers, AOL (perhaps better known as America Online) is now in the UK, offering exclusive Internet pages alongside its access to the Web. We gave you the chance to sample AOL for free with our special preview software CD-ROM with MacFORMAT

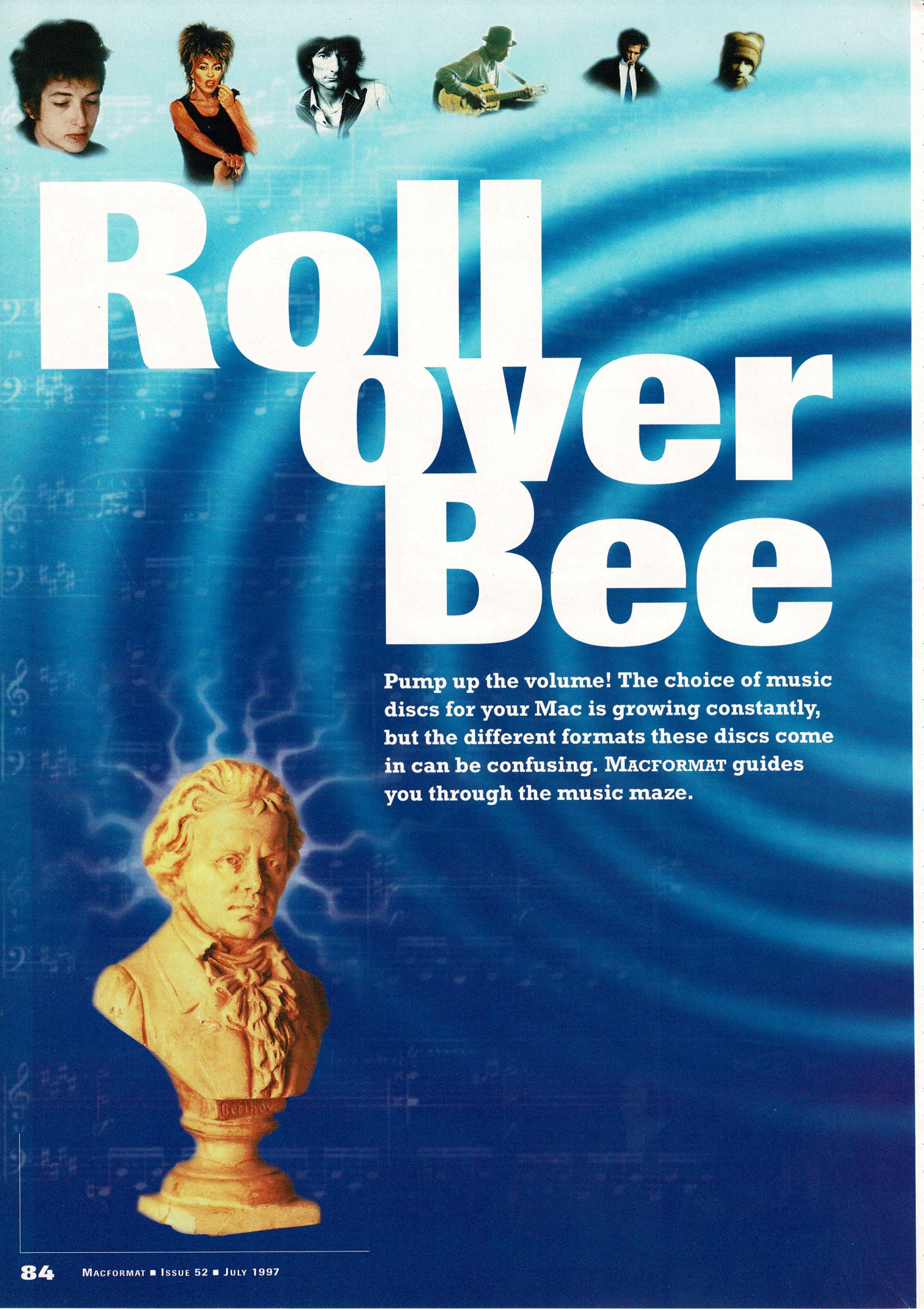
Once you've installed the software, you'll be able to explore the whole of AOL, and this includes computing, news and entertainment. To visit the **MACFORMAT ON AOL** preview, simply enter the Keyword **MacFormat**.

MACFORMAT ON AOL will bring you regularly-updated sections, including areas specially for creative artists, multimedia and games users, Internet users, business users and anyone who has ever grappled with a Mac

As it evolves, MACFORMAT ON AOL will be bringing you more news, more reviews, software to download, a comprehensive buying guide and

■ Although MACFORMAT is based in the UK area of AOL, you can reach us through any AOL browser, wherever you are in the world. Look for the UK area on AOL's International page. **ME**





Roll over Bee

Pump up the volume! The choice of music discs for your Mac is growing constantly, but the different formats these discs come in can be confusing. MACFORMAT guides you through the music maze.





thoven

Brahms, Strauss and Rimsky-Korsakov: this was the hit parade a hundred years ago, as Europe feasted on a banquet of ballet and opera. We saw in the new century with the waltz and went on to dance to jazz, the blues, rock 'n' roll, the Beatles, Chic and the Chemical Brothers. With all this and the Rubettes, too, the 20th century's seen a dizzying growth in music's importance and diversity. It's a growth fuelled by the development of a music industry with technology at its heart.

After radio and television brought musicians to wider audiences than they could have imagined, the Mac and other computers enabled them to create new sounds and use new techniques in music production. Machines like the Mac are now a core part of any modern recording set-up. Today, though, the Mac is much more than a production tool. Thanks to the CD, it provides a new medium for music to reach its audience.

There was only ever going to be one winner as vinyl took on the new Compact Disc format in the 1980s, but if we had rejected CD then as we later rejected newer formats like digital audio tape, you wouldn't be able to

enjoy the CD's unrivalled versatility through your Mac now. The silver disc is able to store different types of information – audio, video and computer data – all of which your Mac can process and enable you to enjoy.

In their search for the ideal way to present music, the recording and software industries have devised several different CD formats your Mac can use, each with a distinctive purpose behind it. We'll look at the main formats and the titles you can buy on each one over the page. Don't forget, though, that your Mac is perfectly capable of playing the original CD format – the simple audio CD – with thousands of titles available for it in every high street record shop.

Any Mac with System 7.5 or later will have a program called the *Audio CD Player*, and this enables you to play CDs through your Mac, even while you're working in other programs. If you don't have System 7.5, though, there are shareware alternatives to Apple's own program. *CD Menu* is a handy player, which sits in your menu, while *ColorSwitch Pro* is a general-purpose utility that includes a CD player. Both of these programs work with any version of System 7, and you can find them on this month's Cover CD! ➤

Contents

CD formats

CD Extra	86
Video CD & DVD	87
CD-ROM	87

New CD-ROMs reviewed

<i>Eve</i>	88
<i>Guitar Hits</i>	89
<i>Rolling Stones'</i>	
<i>Voodoo Lounge</i>	90
<i>Jungle Activated</i>	91



CD Menu in Shareware, plus *ColorSwitch* in Shareware Central



CD Extra

Confused by the different CD formats? Richard Hill explains the pros and cons of CD Extra, Video CD, DVD and CD-ROM.

Compact discs can store up to 78 minutes or so of music, but following traditions firmly established during the vinyl era, most albums last around 45 or 50 minutes. CD technology, though, enables record companies to find a use

for the spare storage space by adding a small multimedia program your Mac can play as it would a CD-ROM.

These albums with a little something extra go under a few different names – CD Plus, Enhanced CD and Power CD, for example – but the term that seems to be sticking best is CD Extra. The format is most firmly established in the United States, where record companies tend to regard the multimedia segment as a bonus for anyone who chooses to buy a favourite artist's new album. Even with dozens of CD Extras now on sale, you'll have difficulty finding one in a Stateside record store; often the only evidence of the multimedia segment is a discrete logo on the back of the case. Take your new CD home and open it up, though, and you may find a card inside announcing a surprise program.

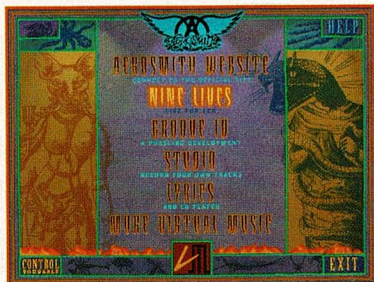
You can listen to the audio portion of any CD Extra through any CD player, but only your computer will play the multimedia section. While discs now make using the two sections automatic, depending on where you insert the disc, older discs follow a cruder system where the multimedia section is track one on the

disc. Actually playing track one through your hi-fi will result in a barrage of noise, which could damage your speakers, so always make sure you check a disc's instructions to see which system it follows. It's impossible to play the Mac section of a modern disc on your hi-fi, so there is no risk with most of the discs you'll find.

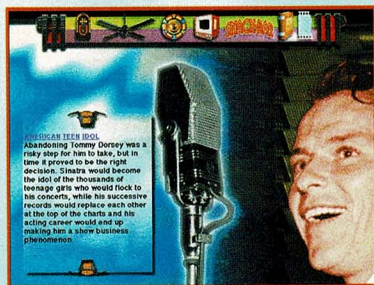
Artists who have released CD Extras in the US include Mariah Carey, Gloria Estefan and Michael Bolton, as well as the more left-field Bush, Fiona Apple

and Sarah McLachlan. (None of these discs is available in the UK at present.) The programs themselves are often simple affairs, suiting their giveaway nature. You'll find biographical information, song lyrics and video clips – perhaps a game as well.

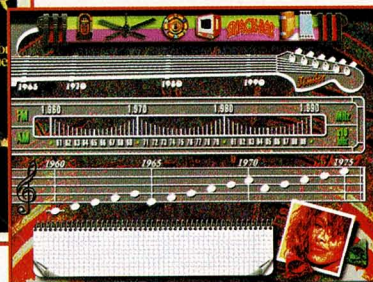
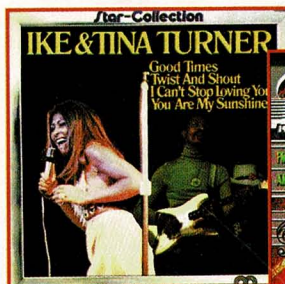
CD Extras are starting to appear in the UK: Aerosmith's new album *Nine Lives* features a multimedia segment with nine video clips, lyrics, an automated link to the Aerosmith Web site (which you can use if you have an Internet connection) and interactive games that challenge you to jam with the band. There are also plenty of



After its cameo appearance in *Quest for Fame*, Aerosmith returns to the Mac with an exclusive multimedia segment on the group's new album *Nine Lives*.

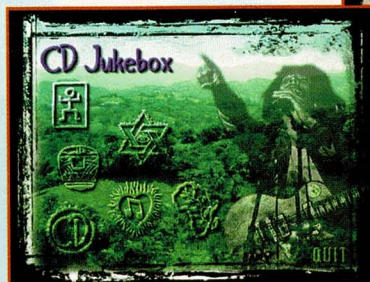


Frank Sinatra's career has been seen in vinyl, television and now in CD-ROM.



Revisit Tina Turner's rise from Nutbush to Hollywood in this compilation album plus multimedia segment.

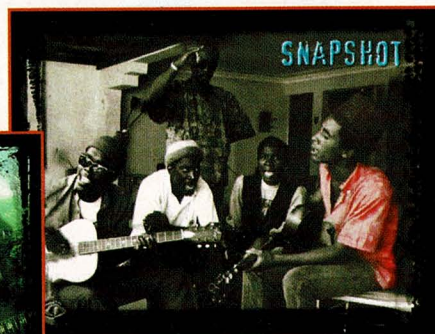
CDs, although it doesn't distinguish between CD Extras and full CD-ROMs like Bob Dylan's *Highway 61*. Sony, one of the firms most involved with CD Extra, also has a Web site at <http://www.music.sony.com/Music/CDEXTRA/> which includes some free mini-samples of the best discs.



Soul Almighty features some of Bob Marley's first recordings in remastered demo form, plus a multimedia biography.

(stickered!) copies of the multimedia edition of *The Golden Mile* by My Life Story, the group that recently enjoyed hits with "King of Kissingdom" and "Strumpet". Look for these in your local record shop.

The Enhanced CD Database Web site (<http://www.musicfan.com/>) is the best source for finding out about new



Other CD Extras

■ *Bob Marley: Soul Almighty* (£12.99, Tring International on 01296 615511) presents early recordings by the reggae master, with a Mac section including a full discography, video interviews and material on Rastafarian culture.

■ *Music Legends: Frank Sinatra* (£12.99, Tring International) offers classic songs from Rodgers and Hart and Cole Porter, plus a Mac section of video and biographical material.

■ *Music Legends: Tina Turner* (£12.99, Tring International) brings you early Turner including "Nut Bush City Limits" and "River Deep, Mountain High", as well as Mac material.



The US is enjoying CD Extras from artists like Fiona Apple (left and top left), Gloria Estefan (top) and Keb'Mo' (above).



Video CD

Video CD has been an early attempt at a universal standard for playing back video on those ubiquitous silver discs, but it's had only limited success. It stores files in a high-quality video format called MPEG-1 (named for the Motion Picture Experts Group). When the format was first launched, you needed special hardware to display an MPEG video clip. For a while Apple offered an MPEG board to fit into your

Mac, but it's now possible to play MPEG on your PowerMac without any added hardware, thanks to QuickTime.

The QuickTime MPEG Extension is a free add-on for the QuickTime 2.5 video playback system which enables any PowerMac to play MPEG clips. As you get access to faster PowerMacs, you'll be able to increase the size of the video's window, but even the slowest PowerMac with a 2x speed CD-ROM drive will give tolerable results, and our PowerMac

7600 gave an excellent picture. The QuickTime MPEG Extension is available free from the Apple Web site <http://www.quicktime.apple.com/>

You can find Video CDs in large record shops, with artists such as Peter Gabriel, Cliff Richard, Abba and Oasis. The discs cost between £10 and £20. You might find them in the CD-i section (CD-i is a home multimedia device), but any disc labelled as a Video CD will work on your PowerMac with the MPEG Extension.

CD-ROM

The CD-ROM has been the most successful by far of the variant CD formats, with millions sold every year.

Written exclusively for computers like the Mac, the CD-ROM wraps an interactive shell you can control around video, sound and animation.

Reference CD-ROMs

Perhaps the best use for CD-ROM is reference, and you'll find a good spread of music reference titles for your Mac. *Music Central 97* is the undisputed king – Microsoft's encyclopedia of rock gives you details of 80,000 albums from Abba to Zappa, with 5,000 in-depth reviews from the magazine *Q*. You can find your favourite artist or song with *Central's* search facility, and you can also enjoy video clips and guided tours to broaden your musical horizons. *Music Central 97* costs £29.99; contact Microsoft on 0345 002000 for more details.

Also available:

■ *The Art of Singing* (£29.99, Notting Hill on 0171 937 6003) is a rich guide to opera, choral works and the singers who bring them to life, all presented in the constantly surprising and detailed Academy of Song.

■ *Musical Instruments* (£29.99, Microsoft) introduces you to the sights and sounds

of over 200 instruments, from the commonplace to the exotic.

Musicians' CD-ROMs

Software designers have made several attempts to translate the appeal of the most famous musicians to CD-ROM, although few actually feature much personal involvement from the artists themselves. Tring International is offering a couple of titles which show the variety you'll find within this field of CD-ROM. Each once originally cost upwards of £35, but is now available for £12.99.

Bob Dylan: Highway 61 Interactive celebrates the entire career of the man who blended the social roots of folk into rock to such devastating effect. It's basically an extended version of the biographical and video material you'd expect to find on a CD Extra, but uses the extra storage space to offer far more depth. You'll find the lyrics to over 500 of Dylan's songs, along with archive material placing his work into its proper context.

Dylan's disc is positively conventional next to *♂ Interactive*, a CD-ROM set in the world of the artist previously known as Prince – the man we now simply call "Squiggle". Here the videos and information are set like jewels within a luxurious squiggle-shaped temple you're invited to explore. The ambition of the title (which doesn't always come off) leads to an experience big enough to match the size of *♂'s* reputation.

Also available:

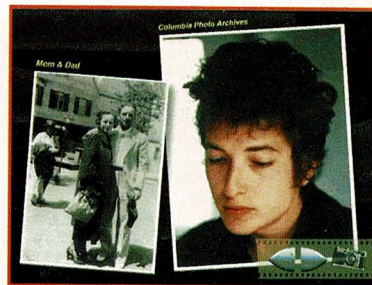
■ *In Bred with Rednex* (£19.99, BMG Interactive on 0171 973 0011) may well have been your introduction to music on CD-ROM, as it formed part of the software bundle you received with each Apple Performa until recently. They're really not all this bad.

■ *Santana* (£9.99, Tring International) celebrates the work of Carlos Santana, who first knocked us out with a blistering guitar solo in the mid-1960s but neglected to finish it. The CD-ROM

marks 30 years of jamming and appears next month.

■ *Willie* (£9.99, Tring International) offers a CD-ROM insight into the life and works of respected country musician Willie Nelson.

■ *XPlora 1* (£39.99, Real World Trading on 01225 744464) is the first CD-ROM from Peter Gabriel, who has a much heavier involvement in multimedia than practically any other star musician. *XPlora* introduces the ideas of placing music within a more immersive environment, which you'll see developed further in Gabriel's second disc *Eve* (reviewed over the page).



Highway 61 Interactive is an exhaustive look at Bob Dylan's career, charting the roots that helped him merge folk and rock music.

CD-ROM oddities

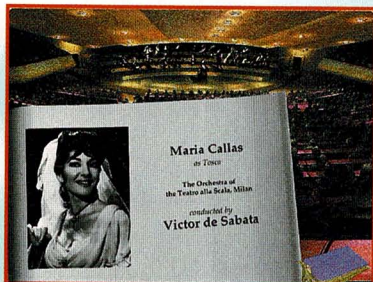
CD-ROMs don't come much odder than *Quest for Fame*, an Aerosmith-inspired title which challenges you to riff your way to the top, using an electronic guitar plectrum plugged into your Mac to match the rhythm presented on the screen. Part of the challenge is finding something to use the plectrum against if you don't own a guitar (we recommend a tennis racquet), but taking on your cartoon opponents in every barfly joint and packed auditorium on the road to fame is a hoot. *Quest for Fame* costs £44.99; contact Virtual Music in the US on 00 1 508 688 8800 for more details.

Also available:

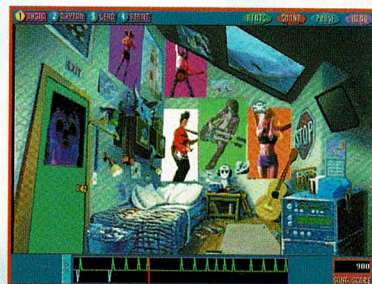
■ *Rock 'n' Roll Your Own* (£9.99, The Learning Company on 0181 246 4000) places you within a virtual studio, where you turn music producer and mix your versions of top hits.

That's the end of this show, but for an extended encore, turn the page to find four of the most recent music CD-ROMs for your Mac...

RICHARD HILL



Notting Hill's *The Art of Singing* uses advanced interactive environments to illuminate the music-making process.



Take on the legends of rawk, armed with nothing more than a plectrum and a Mac, in the manic *Quest for Fame*.



PRICE £39.99	ON SALE Now	CONTACT Real World MM Ltd on 01225 743188	WEB SITE http://www.evecd.com/
MAC Processor: 68040 • RAM: 8Mb	POWERMAC Processor: any • RAM: 8Mb (12Mb recommended)	REQUIRES System: 7.1 • HD space: 10Mb •	
Screen: 640 x 480 • Colours: thousands • Extras: 2x CD-ROM drive			

Eve

Two years in the making, Peter Gabriel's latest multimedia opus is finally here. Is it the shape of things to come or just eye candy for the art crowd?

What's next?

Peter Gabriel is currently involved in a Kai Krause project for MetaTools called Liquid Music. The company is bringing different exotic types of visual form to sound waves.

First, a quote: "I believe that in the next few years, kids will develop their own multimedia language – free of the barriers of text and translation – that we will all ultimately adopt..."

And with Peter Gabriel's Tefal-headed prophecy rattling round our apparently still-undeveloped brains, it's safe to say that *Eve* is a little different from most CD-ROMs. Gabriel has already dipped his computerised toe into the pools of multimedia with the much frothed-over *Xplora 1*, but this time out the ex-Genesis frontman has jumped in at the deep end.

A sprawling mix of lush visuals, unreleased music, specially-commissioned art and over 80 minutes of video footage, *Eve* does, understandably, wear those two years of production on its multimedia sleeve. Jointly developed by Gabriel's Real World studios and Seattle-based techies Starwave, it is without doubt one of the most impressive sights to grace a monitor, but, as that equally

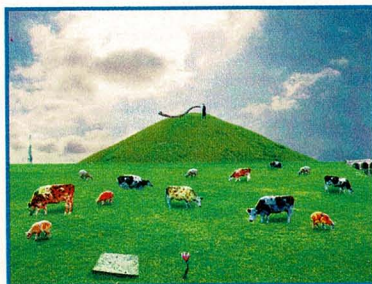
impressive legend goes, is it much cop?

Where to start? Well, in all senses of the word, at the beginning. Your cursor is now a sperm, and once you've fertilised the opening screen's egg, the hallucinogenic landscapes of *Eve* are yours for the (e)x-

ploring – and what a weird and wonderful planet Gabriel's created. The storyline runs thus: Adam and Eve have separated; Eve has gone off on her eternal travels, and your job is to steer Adam (played by Gabriel) through the worlds of Mud, The Garden, Profit and Paradise, in a quest for his one-time mate.

Sound pretentious? Well, indeed it is, but rather than just "Myst meets sexual politics in cyberspace", the themes of love and relationships are woven throughout *Eve*. Video screens tell of screwed-up relationships while you're solving puzzles, and artists, scientists and psychiatrists espouse their theories as you click around *Eve*'s interactive art galleries. Of course, there's that puzzle-based adventure to solve in the meantime, but this is no normal point-and-click quest. It's truly thought provoking.

It's also a right royal pain in the backside. *Eve* might be the product of much intellectual chin-stroking but, as the 111 (!) hints in the **ReadMe** file attest, that doesn't mean it's easy in the gameplaying stakes. These puzzles are hard – really



Ever wonder where Gabriel gets those New Age soundscapes from? Click on a cow to find out. Pull the udder one... Sorry.

hard. When it takes endless amounts of screen-scouring and brain-wrangling to move Adam from leafy hut to barren sand dune to surrealistic backdrop of garden gnomes, with bowler-hatted

businessmen and flying roses with Sinead O'Connor's head in them, you know that *Eve*'s promised 60 minutes of gameplay is a huge underestimate.

So, *Eve* is eye-poppingly gorgeous, a touch pompous and hard to complete, but is it any fun? Indeed it is. Hidden in *Eve*'s four worlds (or five if you count the don't-go-there Ruin...) are three separate IMX (Interactive Musical Xperiences) toys. Based around three of Gabriel's songs, they give you the chance to play remixer by fiddling with sound loops, effects and all manner of weirdness.

Choose your "tools" and move on to the video screen, where your sounds are converted into bizarre images (floating eyes, triffid-like plants, electric pylons...), and a click will produce much audiovisual madness, all of it available for saving and even uploading onto *Eve*'s Web site (<http://www.evecd.com/>). Easy to use and excellent fun to tinker with, this is a welcome respite from *Eve*'s sometimes over-serious backdrop, and one feature you'll keep returning to.

Drawbacks? Just the obvious ones. You'll need a hefty set-up to be able to

cope with the demands *Eve* makes on your Mac, but the real "problem" lies with Gabriel himself. From the songs to the cover art, to the artists he's collaborated with, *Eve* just about is Peter Gabriel on a CD-ROM. If that's your bag, this is an essential purchase and a bargain at thrice the price. If not, then borrow *Eve*, marvel at it and then leave it well alone as *In Your Eyes* booms out of your speakers for the umpteenth time. This is a minor point but one worth making, especially if the works of avant-auteur Kathy Acker and Helen "Man is but a bubble" Chadwick aren't your cup of tea.

And that's it. Pleasing to both aesthetes and techies alike, *Eve* has single-handedly raised the stakes for entertainment CD-ROMs and will not be bettered for some time. So, does Adam finally get his Eve? Are thousands of years of sexual politics resolved? Will you find the secret of the universe in *Eve*'s labyrinths? That'd be telling. But, after two years of slog, the last word should lie with Gabriel himself: "I hope you find *Eve* rich and curious." Indeed you will. **MIKE GOLDSMITH**

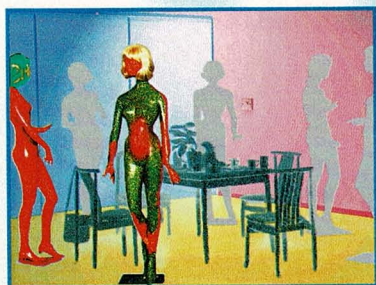
Eve

Ignore the fluffy New Agey-ness – this is one of most clickable, gorgeous and important multimedia titles released to date.

MF rating 95%



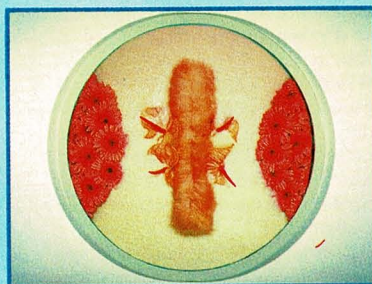
Drain the pool to reveal three rather thirsty fish, one of whom will turn paisley and emit a New-Age sound loop. Of course.



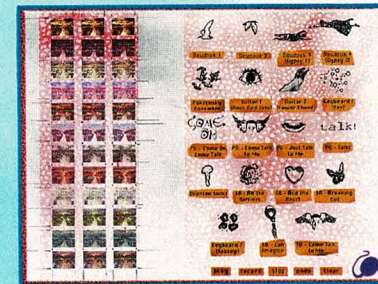
And when was the last time you saw this in *Encarta*? Click around to "reveal" even more. Ahem.

Interactive for the people

Like what you've created in the IMX musical games? Head to the *Eve* Web site at <http://www.evecd.com/> to share your new-found genius or download other *Eve* addicts' creations.



More art gallery than adventure game, *Eve* is packed with interactive canvases for you to stroke and manipulate.



The future of interactive music, or screen-saver from your worst nightmares. The IMX is all that and quite likely more.



PRICE £19.99	ON SALE Now	CONTACT UbiSoft on 0181 944 9000	WEB SITE http://www.ubisoft.com/
MAC Processor: 68LC040 • RAM: 8Mb	POWERMAC Processor: any • RAM: 12Mb	REQUIRES System: 7.1 • HD space: 8Mb • Screen: 640 x 480 • Colours: 256 •	
Extras: 2x CD-ROM drive • <i>Guitar Hits</i> is accelerated for System 7.5 and for PowerMacs			

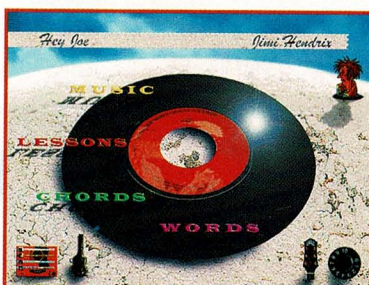
Guitar Hits

Fancy yourself as the next Jimi Hendrix? It's time to swap that ol' guitar for a Mac and let *Guitar Hits* be your on-screen guru...

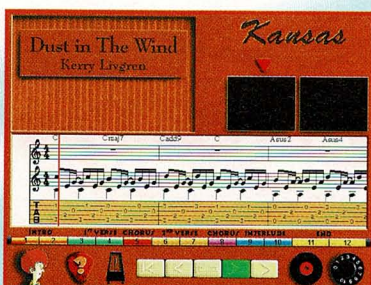
What have the following four guitarists got in common: Jimi Hendrix, Bob Dylan, Cat Stevens and Bob Marley? Well, all of their tunes are being murdered right now by a busker in a shopping precinct near you, but another answer lurks closer to home. These, plus three other cat-gut-plucking luminaries are featured on UbiSoft's *Guitar Hits*, and if you've ever fancied playing like them, don't worry. With a Mac, a guitar and a fair amount of patience, you soon will be.

Sound likely? Well, perhaps. The Mac might be many things, but the gateway to rock 'n' roll legend it most certainly isn't. So, forget those imagined dinner invites round to Liam and Patsy's, *Guitar Hits* is designed for those with "L" plates on their Stratocaster and those alone. The multimedia equivalent of a year's worth of home guitar lessons, the seven guitar classics crammed onto this CD-ROM are explained and tabulated with 180 finger-straining video clips, animated chord sequences and even a voice-over to explain a particular song's inclusion.

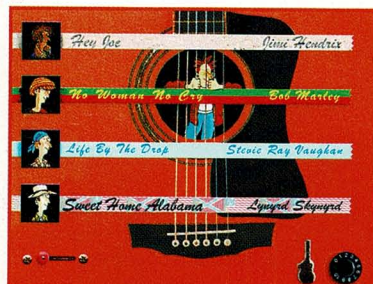
So, where to begin? Well, it helps to



Remember when singles had big holes in the middle...? Jimi Hendrix's "Hey Joe" is just one of the six golden oldies on offer.



Is there too much to learn at one time? Then use the **Navigation** bar to flick from chorus to verse.



Trapped behind the strings for now, Jim's always on hand with a **Help** screen to ease you through those early days.

be in tune, so click on the on-screen guitar head, pluck each string with your cursor and tune your acoustic the easy way. It's even easier if you're practising with an electric guitar – simply plug your instrument into the microphone port on the back of your Mac and the computer will tell you if your guitar's in tune. Hardly essential, but it's a prime example of the thorough approach that exemplifies *Guitar Hits* and which gained it the first prize in the education category of France's multimedia awards, "Les Trophées Du 8ème Art".

Songs are carefully chosen for their differing styles – the finger-picking arpeggios of Kansas's "Dust In The Wind" are a musical world away from the gentle strumming of "Blowin' In The Wind". As you explore *Guitar Hits*, each song is played and then diligently explained by an on-screen musician until you feel confident enough to follow his lead. Just want to play the chords? No problem. Head to that section for a basic overview. Prefer to hear the whole thing? Then start in the Music section and follow the animated tabulation while the song plays. Stuck as to how to play "Sweet

Home Alabama"? Just click on your leather-jacketed guide Jim for immediate help or refer to the accompanying manual, which is crammed with background information, lyric sheets and those all important guitar tabs.

And so the metronome clicks, the videos play and you know the lyrics to Cat Stevens' "Wild World" off by heart after half an hour, but does it work? Given UbiSoft's claims of the CD giving you a year's worth of tutoring, that particular knowledge remains some time off. However, *Guitar Hits* is certainly everything you know about guitar lessons – namely, that apart from Stevie Ray Vaughan's "Life By The Drop", all the "classics" chosen are at least 20 years old and are played by a rather staid instructor rather than the original artist. True, it makes for an educational listen and, with all that on-screen guidance, will (with luck) have Hendrix wannabes playing "Hey Joe" in just a few weeks, but don't expect one drop of the energy that attracted you to the guitar in the first place. Maybe it's the licensing problems or a desire to teach "correctly", but the inclusion of those original versions would've spruced up the content, which, at seven songs, does look a tad sparse.

But, of course, not everyone wants to set light to their guitar or headline their local Enormadome, and if bedroom strumming is your thing, *Guitar Hits* is ideal. Plain speaking enough for the beginner but with enough multimedia depth to take you from simple chords to the advanced techniques required to master "Hey Joe", this CD will guide you from early fumbblings to your inevitable purchase of the "Wonderwall" tab book. Whether that's a good thing, however, is another question altogether, but the answer is quite possibly blowin' in the wind...

MIKE GOLDSMITH

Guitar Hits

DIY meets Burt Weedon's guitar class – pluck the strings, study those videos and you'll be busking at your local tube station in no time.

MF rating 84%

Guitar quote no 1

"I wrote it in a café in ten minutes. 'Blowin' in The Wind' was a lucky, classic song..." Understated as ever, Bob Dylan on that million-selling "after-thought".



The song doesn't remain the same and neither does Jim's hair in the opening menus. Nice afro...

Guitar quote no 2

"I liked it ['Hey Joe'] but, you know, it wasn't being played too much so I really liked it. So when we went to England, it was the first thing we recorded, you know..." Um, thank you, Jimi Hendrix.

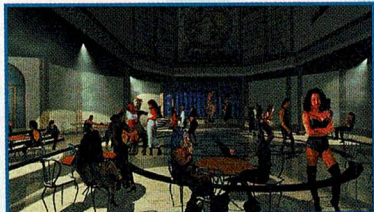


PRICE £29.99	ON SALE Now	CONTACT VIE on 0171 368 2255	WEB SITE http://www.vie.co.uk/
MAC Processor: 68040 • RAM: 8Mb	POWERMAC Processor: any • RAM: 16Mb	REQUIRES System: 7.0 • HD space: 9Mb • Screen: 640 x 480 • Colours: 256 •	
Extras: 2x CD-ROM drive			

Rolling Stones' Voodoo Lounge

Voodoo bartenders? Mystic passports? Women's toilets?! The Rolling Stones bring their own magic to the world of CD-ROM, and it's weird...

It's a long, long way from Dartford to a bar in Louisiana, but 27 years on from Mick and Keef's apocryphal decision to form the Rolling Stones in the art colleges of London, that's where the dynamic duo find themselves. The bartender's a voodoo god, the gent's loos contain a secret entrance to much hedonistic frolicking, and there's a strange tree growing downstairs that plays videos of the band's last gig in Tokyo whenever you want. The Stones still know how to throw a party...



Head downstairs and the real party begins. Ask nicely and one of these people will boogie just for you.

just a couple of mouse clicks, you're suddenly slap-bang in the nightclub of your dreams. Scantly-clad dancers frug to your left, Keith Richards is having a pint at the Voodoo Bar, and whenever the cursor changes into that familiar Warhol-designed tongue logo, there's always a party waiting.

Click on Danbhallah "Voodoo Bartender" Wedo, grab your VIP pass, and all manner of point-and-click delights await. Head left and you can watch interview clips of The Stones chatting about their decades in the business. Head right and a high-tech Mixer Desk lets you choose one of four tunes to play as you soak up the mansion's spooky atmosphere. Fancy a pint at the bar? Pick up a cocktail and the VoodooRaver's screensaver-on-mescaline enables you to move Stones clip art around the screen while records play and spooky fractals unfold in the background.

This isn't much of a party yet, so head downstairs, click around the mansion's lower level and the *real* party's just starting. A virtual Mick is chatting up girls in the women's toilets, Ronnie Wood is "jamming" an acoustic number on the verandah, and, if you're lucky, an animated toilet roll will tumble across the

screen sporting the lyrics to "The Break". Sound flash? Indeed it is. Determined not to be left behind by the digital age, *Voodoo Lounge* is crammed with enough video clips, interviews and multimedia madness to make most music CD-ROMs pale in comparison. Click almost anywhere inside *Voodoo Lounge* and things will happen: QuickTime go-go dancers shake their stuff, flea-bitten roadies offer advice, while a trip to San Francisco via the Courtyard's Tour Passport brings you to the Jagger.cam – a cinematic tour diary filmed by ol' rubber lips himself.

So it's got everything, yes? Exclusive footage, Mac trickery and even a storyline? Well, unfortunately, the storyline is where *Voodoo Lounge* lets itself down. It's not a point-and-click adventure. Hit "M" and the Map option enables you to access anything within the game, from the Baron's Lounge to the Lower Level's VIP Lounge. It's not an encyclopedic CD-ROM, either. Songs and photos are from the *Voodoo Lounge* album only and that rare footage of "Sympathy for the Devil" or "Tumblin' Dice" is certainly lacking.

So what is *Voodoo Lounge*? It's many things: it's an easily-navigatable multimedia tour diary of The Stones' last tour; it's a CD-ROM crammed with exclusive footage that Stones obsessives would sell their original copies of *Sticky Fingers* for; it's also a bit of a laugh when Baron Samedi constantly booms from your speakers. But is it essential? Possibly not. With the likes of Microsoft's *Music Central*,



Mouth organ vibes in the area! Mick and Ronnie come over all unplugged with this jam on the verandah.



Chat with Keef or just head to the bar to pick up your all-important VIP pass.

the chance to document The Stones' career has been lost, and the resulting CD-ROM is nothing but a concert programme with multimedia knobs on.

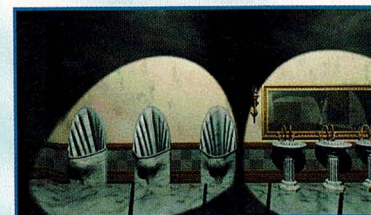
But when all's said and done, *Voodoo Lounge* is The Stones – the group that survived Altamont, The Stones that recorded "Satisfaction" and The Stones that, for a while, will transform your Mac into a world of wanton groupies, snake-charming deities and, 27 years on, rock and roll. When was the last time *Encarta* did that?

MIKE GOLDSMITH

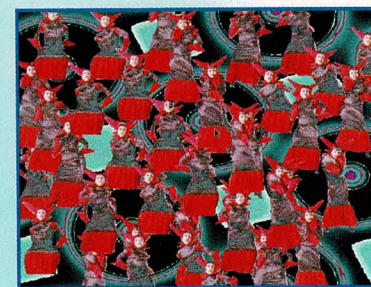
Voodoo Lounge

Crammed with exclusive footage and all-round spookiness, the Stones' trip to the Louisiana swamps is satisfaction indeed.

MF rating 84%



So, when was the last time you went to the gents and found Keith Richards there?



Time to check exactly what the bartender put in that shandy when the VoodooRaver sends images flying round your monitor.

World Wide Stones

To keep up to date on what Mick and the boys are doing via your Mac, strut on over to their ultra-swanky Web site at <http://www.stonesworld.com/>



PRICE £14.99	ON SALE July	CONTACT Renk Records on 0181 986 0314	WEB SITE Not available
MAC Processor: 68LC040 • RAM: 8Mb	POWERMAC Processor: any • RAM: 8Mb	REQUIRES System: 7.1 • HD space: 12Mb • Screen: 640 x 480 • Colours: 256 •	
Extras: 2x CD-ROM drive			

Jungle Activated

Booyaka and, indeed, booyaka! *Jungle Activated's* here with the sound of drum and bass for your Mac. It's time to get those beats pumping – can you take the pressure?

It's on *Top of the Pops*. It's on deodorant adverts. It's also booming out of just about any car that passes you in the high street on a Friday night. It's jungle, and given the spluttering beats, illogical time changes and bizarre special effects that fly around your average drum and bass record, it's the perfect music to accompany the technological revolutions happening to your Mac in 1997.

While the likes of Oasis and Ocean Colour Scene might be more readily palatable, the sci-fi sound of jungle is the preferred listening of 99.9% of the boffins who are currently reprogramming your computer, and it's thus no surprise that drum and bass specialists Renk Records has entered the multimedia market with *Jungle Activated*.

So, how does this delve into jungle music fare? Well, to start off with, very well – it's quick and easy to install, and *Jungle Activated's* main interface is a sparse mixing studio. Spin round 360-polygoned degrees and you'll find speaker stacks booming out Renk's latest



Sounding good but looking murky, Renk's jazz-jungle hybrids are documented for your pleasure.

hits, comfy chairs scattered all about and even an angle-poise lamp if you fancy leafing through a press release or two. From the mixing desk to the framed photos of Renk's repertoire, it's all clickable, and the touch of a mouse sends you spinning to any one of 31 jungle tunes and nearly half an hour of video footage.

All of this is exhaustive of content and swanky of design but that's it. The Mixing Desk features multimedia biographies of Renk's artists (such as Maxine, BBB, Dubwise and MBeat), backed up with video, music and background info. Click on the Artists' Wall, though, and you'll get the same but ever so slightly rearranged. Yes, it's immaculately presented (the video clips are superb quality) and with that insistent soundtrack booming wherever you travel, it's a revelatory introduction into junglist culture for non-converts. But after a while it all becomes samey, and given the frenetic pace of the music involved, "samey" is a word that shouldn't even be in the same postcode as *Jungle Activated*.

So, what else is there? Head over to

the Jungle section for a history of how drum and bass has stormed the charts over the last three years, and you'll also find a screen of nightclub fashion. Or maybe click on the central mixing desk itself and make your own tunes. Sound good? In theory, yes – but this is jungle, sounds are evolving every five minutes and *Jungle Activated's* results are sadly less than cutting edge. Changing fashions in nightclubs quickly make one fashion area redundant, but, while this is hardly Renk's fault, the mixing desk is also less than crucial. Yes, you can swap between "sub" and "long" bass or choose between "keyboard stabs" and "special effects", but when the program is the kind of thing you'd expect from a Stylophone plugged into a knackered "Speak 'n' Spell", it's hardly worth the effort.

So, what's the point? The point is that jungle is the sound that's increasingly soundtracking the late '90s and Renk Records has played an important part in getting it there. Read the background, study the videos and catch some of the artists who will probably still be around in years to come, but after that? After that, *Jungle Activated* features multimedia that wouldn't be out of place tacked on the end of an Enhanced CD (see page 86) and, most incredibly, music that actually sounds dated compared to the likes of recent chart-breaker Photek or Goldie's Metalheadz collective. It's a problem that's going to face all jungle artists who find themselves drawn towards the Macs that actually helped them create their high-tech sound and it's one that's not going to go away. A solution? There isn't one, but it's a problem that ensures both music and multimedia will consistently have to evolve to please the Mac-owning music set. And, in the long run, that's got to be a good thing. **MIKE GOLDSMITH**

Jungle Activated

Jungle hipness or not, average-ish visuals plus some surprisingly dated tunes won't hype this into the multimedia charts.

MF rating 76%

JungleNet

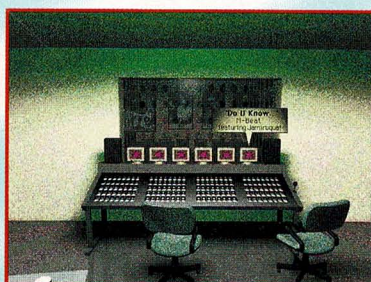
For the latest news on what's happening in jungle circles, head over to the Breaks Web site at <http://www.breaks.com/>



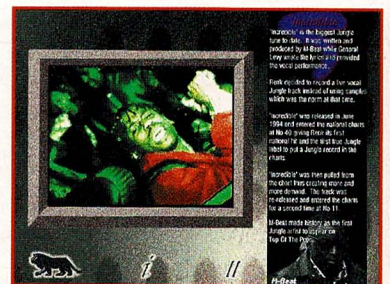
If Stevie Wonder could see me now... Amusingly-hatted soul boy Jamiroquai gets in with the drum and bass crowd.



Choose your "choons" multimedia-style with *Activated's* neon-flashing jukebox. Haven't got any Peggy Lee, have you?



The mixing desk awaits your touch. Videos and biographies are contained within, or click the microphone for a secret message.



The shape of things to come... Produced by M-Beat, General Levy's "Incredible" was the first jungle tune to storm the charts back in '94.

Feel the vibe!

This CD comes bundled with a CD of one of Renk's artists. So after checking out the CD-ROM, you can chill out to some jungle sounds...



freephone

0800 680000THE EX-VAT PRICES LISTED ARE FOR BUSINESS PURCHASERS ONLY.
CONSUMERS SHOULD TELEPHONE TO CHECK THEIR PRICES.**BOLTON 01942 794040 EDINBURGH 0131 556 4114 LONDON 0171 582 4777 WOKING 01483 797676****POWER MACINTOSH HARDWARE & BUNDLES****PowerMac 4400/160 & 200**

- 160MHz or 200MHz Motorola PowerPC 603e Processor
- Optional 256k Level 2 cache • 16Mb EDO RAM
- 1Mb Video RAM • 3 PCI expansion slots
- 1.2Gb or 2Gb Hard Drive • 8x Speed CD ROM Drive
- 2D graphics acceleration • 16-bit stereo audio input/output
- AppleDesign™ keyboard & Mouse

PowerMac 4400/160 16/1200only **£799**

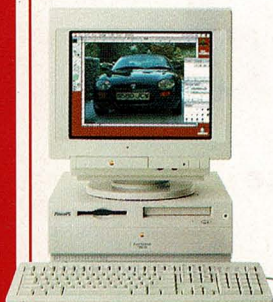
Bundle Options	16Mb	32Mb
with 15" monitor	£999	£1049

PowerMac 4400/200 16/1200only **£899**

Bundle Options	16Mb	32Mb
with 15" monitor	£1099	£1149

**PowerMac 4400/200 16/2000
256k Level 2 cache & Network card**only **£1049**

Bundle Options	16Mb	32Mb
with 15" monitor	£1249	£1299



Pictured with optional Monitor

PowerMac 7300/166

- 166MHz or 200MHz Motorola PowerPC 604e Processor (on upgradeable daughterboard) • 256k Level 2 cache
- 16Mb or 32Mb RAM • 2Mb VRAM • 2Gb Hard Drive
- 12x Speed CD ROM Drive
- 3 PCI expansion slots
- Apple Extended keyboard

Preloaded with MS Office 4.2.1

PowerMac 7300/166 16/2000only **£1649**

Bundle Options	16Mb	32Mb
with Apple 17" monitor	£1999	£2049
with Apple 20" monitor	£2699	£2749

PowerMac 7300/200 32/2000only **£1999**

Bundle Options	32Mb	64Mb
with Apple 17" monitor	£2349	£2449
with Apple 20" monitor	£3049	£3149



Pictured with optional Monitor

PowerMac 8600/200

- 200MHz Motorola PowerPC 604e Processor (on upgradeable daughterboard) • 256k Level 2 cache
- 32Mb RAM • 2Mb VRAM • 2Gb Hard Drive
- 12x Speed CD ROM Drive • Zip Drive
- 3 PCI expansion slots • Video in/out
- Apple Extended keyboard

PowerMac 8600/200 32/2000only **£2199**

Bundle Options	32Mb	64Mb
with Apple 17" monitor	£2549	£2649
with Apple 20" monitor	£3249	£3349



Pictured with optional Monitor

PowerMac 9600/200 & 233

- 200MHz or 233MHz Motorola PowerPC 604e Processor (on upgradeable daughterboard)
- 512k Level 2 cache • 12x Speed CD ROM Drive • 6 PCI expansion slots • 4Mb PCI Video Card
- Apple Extended keyboard

PowerMac 9600/200 32/4000CDonly **£2499**

Bundle Options	32Mb	64Mb
with Apple 17" monitor	£2849	£2949
with Apple 20" monitor	£3549	£3649

PowerMac 9600/233 32/4000CDonly **£2899**

Bundle Options	32Mb	64Mb
with Apple 17" monitor	£3249	£3349
with Apple 20" monitor	£3949	£4049

PowerMac 9600/200MP 32/4000CDonly **£3249**

Bundle Options	32Mb	64Mb
with Apple 17" monitor	£3599	£3699
with Apple 20" monitor	£4299	£4399



PowerMac 9600/200 VAR (no RAM, no HD, no Video Card) CD

only **£1749****PERFORMA HARDWARE & BUNDLES****Performa 5260/120**only **£749**

- 120MHz PowerPC 603e Processor
- 12Mb RAM (upgradeable to 64Mb) • 256k Level 2 cache
- 1.2Gb Hard Drive • 4x Speed CD ROM Drive
- Integral 14" monitor
- AppleDesign™ keyboard & Mouse

**PowerMac 5400/180**only **£1049**

- 180MHz PowerPC 603e Processor • Optional 256k Level 2 cache
- 16Mb RAM • 2Gb Hard Drive • 8x Speed CD ROM Drive
- Internal 28k8 voice/fax/modem • PCI expansion slot
- Integral 15" monitor • AppleDesign™ keyboard & Mouse

**new
MODEL****PowerMac 5500/225**only **£1599**

- 225MHz PowerPC 603e Processor • 256k Level 2 cache • 32Mb RAM
- 2Gb Hard Drive • 12x Speed CD ROM Drive • Video-In & FM/TV Tuner
- Internal 33k6 voice/fax/modem • Accelerated Multimedia and 3D graphics
- PCI expansion slot • Integral 15" monitor
- AppleDesign™ keyboard & Mouse

Performa 6400 Home Office

- 180 MHz or 200MHz PowerPC 603e Processor
- Optional 256k Level 2 cache (standard on 6400/200)
- 16Mb RAM (expandable to 136Mb)
- 1.6Gb or 2.4Gb Hard Drive
- 2 PCI expansion slots
- 8x Speed CD ROM Drive
- Internal 28k8 voice/fax/modem
- AppleDesign™ keyboard & Mouse

Performa 6400/180 16/1600 only **£849**Performa 6400/200 16/2400 only **£999**StyleWriter 2500
only **£50** extraPerforma 6400/180 16/1600
with 15" AV monitoronly **£1099**Performa 6400/200 16/2400
with 15" AV monitoronly **£1249****Performa 6400 Creative Studio**only **£1369**

- 200MHz PowerPC 603e Processor
- 256k Level 2 cache
- 24Mb RAM (expandable to 136Mb)
- 2.4Gb Hard Drive
- 8x Speed CD ROM Drive
- Internal 28k8 voice/fax/modem
- Video-In & TV Tuner
- Avid Cinema Video Editing Suite
- AppleDesign™ keyboard & Mouse

StyleWriter 2500
only **£74** extraPerforma 6400/200 24/2400
with 15" AV monitor
only **£1625****PowerMac 6500 Home Office**only **£1325**

- 250MHz PowerPC 603e Processor
- Optional 256k Level 2 cache
- 32Mb RAM (expandable to 128Mb)
- 3Gb Hard Drive
- Accelerated Multimedia and 3D graphics
- 12x Speed CD ROM Drive
- Internal 33k6 voice/fax/modem
- AppleDesign™ keyboard & Mouse

Performa 6500/250 32/3000 with 15" AV monitor only **£1699****new
MODEL****PowerMac 6500 Creative Studio**only **£1789**

- 275MHz PowerPC 603e Processor • 256k Level 2 cache
- 32Mb RAM (expandable to 128Mb) • 4Gb Hard Drive
- 12x Speed CD ROM Drive • Accelerated Multimedia and 3D graphics
- Internal 33k6 voice/fax/modem • Video-In & FM/TV Tuner
- Avid Cinema Video Editing Suite • AppleDesign™ keyboard & Mouse

PowerMac 6500/275 32/4000
with 15" AV monitor
only **£2199****POWERBOOK HARDWARE****PowerBook 1400**

PowerBook 1400cs/117 12/1000

only **£1199**

PowerBook 1400cs/117 16/1000CD

only **£1399**PowerBook 1400cs/117 16/1000CD
& Colour Stylewriter 2200 & Carry Caseonly **£1599**

PowerBook 1400cs/133 16/1300CD

only **£1899**

PowerBook 1400c/133 16/1300CD

only **£2299****PowerBook 3400c**

PowerBook 3400c/180 16/1300

£2899

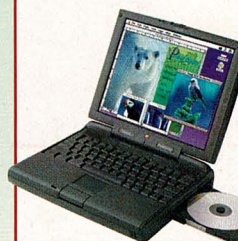
PowerBook 3400c/180 16/1300CD Ethernet

£3099

PowerBook 3400c/200 32/2000CD E/net SoftWin.

£3549

PowerBook 3400c/240 16/3000CD Ethernet

£4199

Authorised Reseller

Dabs Direct are an Apple Authorised Reseller.

All Apple computers purchased from Dabs Direct carry a full Apple warranty and can be returned for repair to any Apple Service Centre world wide.

Export Orders please call 01942 794040, and ask for our Export Division



PRICE MATCHING
We can usually match
other dealers prices.
Please call for details

- ✓ Serving you since 1987
- ✓ Over £31m annual turnover
- ✓ Over 150,000 satisfied customers
- ✓ Highly trained specialist staff
- ✓ Repair & upgrade services

DABS DIRECT

PERSONAL COMPUTER SYSTEMS

SALES FAX 01942 797979

WEB SITE <http://www.dabs.com>

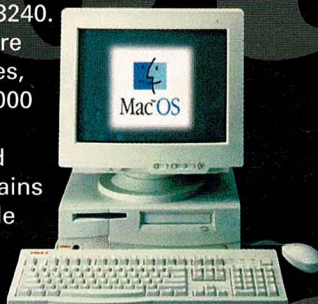
EMAIL macsales@dabs.com

Thinking Macs... Think

UMAX

THE APUS SERIES

The advanced **UMAX Apus** 2000 and 3000 computer series provides all the benefits of the Apple environment, in a flexible and high performance desktop package. The **UMAX Apus** series offers advanced processing power with a PowerPC 603e CPU running at 160MHz in the **Apus 2160** to 240MHz in the **Apus 3240**. With their standard architecture and many future-proof features, the **UMAX Apus** 2000 and 3000 series is aimed at the widest range of general business and graphics applications, and retains full compatibility with all Apple hardware and operating system software.



APUS 2160
Pictured with optional Monitor & Keyboard



PULSAR 200MHz
Pictured with optional Monitor & Keyboard

THE PULSAR SERIES

The **UMAX Pulsar** is one of the worlds most powerful desktop machines, 100% Macintosh compatible (without exception) and out performing all comers in its class.

UMAX SCANNERS

NEW



ASTRA 600S

The **UMAX Astra 600S** is a 30 bit, single pass, colour scanner with a maximum scanning area of US legal size (8.5" x 14")

Umax Apus 2160

£745

- 160MHz PowerPC 603e
- 16Mb RAM
- 1.2Gb EIDE Hard disk
- 8-speed SCSI CD-ROM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Apus 3200

£1025

- 200MHz PowerPC 603e
- 256K Level 2 cache socket (upgradeable to 1Mb)
- 2.1Gb EIDE Hard disk
- 16Mb RAM
- 8-speed SCSI CD-ROM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Apus 3240

£1420

- 240MHz PowerPC 603e
- 256K Level 2 cache socket (upgradeable to 1Mb)
- 2.1Gb EIDE Hard disk
- 16Mb RAM
- 8-speed SCSI CD-ROM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Pulsar 200

£2175

- 200MHz PowerPC 604e
- 512K Level 2 cache
- 2.1 Gb fast SCSI hard disk
- 32Mb RAM (expandable to 1.04Gb)
- 8-speed SCSI CD-ROM
- 128-bit graphics accelerator with 4Mb VRAM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Pulsar 200DP

£2900

- 2 x 200MHz PowerPC 604e
- 512K Level 2 cache
- 4 Gb fast SCSI hard disk
- 32Mb RAM (expandable to 1.04Gb)
- 8-speed SCSI CD-ROM
- 128-bit graphics accelerator with 4Mb VRAM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Pulsar 225

£2500

- 225MHz PowerPC 604e
- 512K Level 2 cache
- 4 Gb fast SCSI hard disk
- 32Mb RAM (expandable to 1.04Gb)
- 8-speed SCSI CD-ROM
- 128-bit graphics accelerator with 4Mb VRAM
- Freehand Graphics Studio 2.0 & Claris Works 4.0

Umax Astra 600S

£169

- 30 bit colour scanning
- 300 x 600dpi optical resolution
- 4800 x 4800 maximum resolution
- Single Pass, colour CCD
- Bundled software:
Presto! PageManager, UMAX Copy Utility & VistaScan

Umax SuperVista S12

£325

- 600 x 1200dpi optical resolution
- Analog Gamma Design for better image quality
- Maximum resolution: 9600 x 9600 dpi
- Bundled software: VistaScan & PageManager

Umax Powerlook II Pro

£1149

- 36 bit colour scanning
- 600 x 1200dpi optical resolution
- Transparency adaptor
- 5000-pixel Single-pass, CCD
- Award winning MagicScan Software
- Binuscan PhotoPerfect Advanced



Transparency adaptor & document feeder available for all **UMAX** scanners

Open 9.00am to 5.00pm Monday to Friday • 10.00am to 3.00pm Saturday

Excellent Quality • Superior Service • Unbeatable Value



freephone

0800 680000



THE EX-VAT PRICES LISTED ARE FOR BUSINESS PURCHASERS ONLY. CONSUMERS SHOULD TELEPHONE TO CHECK THEIR PRICES.

BOLTON 01942 794040 EDINBURGH 0131 556 4114 LONDON 0171 582 4777 WOKING 01483 797676

MEMORY

	72pin SIMM	168pin FPM	168pin EDO 3.3V	168pin EDO 5V
8Mb	25	32	47	32
16Mb	49	58	65	58
32Mb	98	102	138	102
64Mb	299	204	-	204

PowerMac/Umax 1Mb VRAM 25
PowerMac 4400 2Mb VRAM 35
PowerMac 4400 4Mb VRAM 49
PowerMac/Umax PCI 256k Cache 45
PowerMac/Umax PCI 512k Cache 69

APPLE HANDHELDS

Newton Message Pad 130	469
Newton Message Pad 2000	615
1Mb Storage card	60
2Mb Storage card	110
4Mb Storage card	200
Fax Modem	80
Keyboard	78
Leather Carry case	40
Print Pack	45
Recharger & Mains	54

ACCESSORIES

106Key Extended Keyboard	39
Design Keyboard	58
Extended Keyboard	85
Adjustable Keyboard	132
Desktop II Mouse	35
Design Speakers II	46
PlainTalk Microphone	15
5200/6300 Video-in card	85
5200/6300 Video-in-TV card	215
5400/6400 Video-in card	85
5400/6400 Video-in-TV card	125
Presentation kit	199
QuickDraw 3D Accelerator	265
PowerPC 604 120MHz upgrade	269
PowerPC 604 132MHz upgrade	379
586 DOS Card PCI	465
Pentium DOS Card PCI	619
Adaptec 2940 WideSCSI Kit	185

SCSI HARD DISCS

	Internal	External
1Gb	189	229
2Gb	199	239
4Gb	489	529
9Gb	939	979

CD-ROM DRIVES

d2	
x12 Speed	159
MICRONET	
x16 Speed	179

CD RECORDING

D2	
x2 Speed	355
x4 Speed	515
PHILIPS	
CDD-2600	325
PLASMON	
CDD4240 x2 Speed	359
YAMAHA	
CDD-400 x4 Speed	465

All include cables, software and 1 disk

Consumer Credit Available

from **NOVA** finance
A Division of the **HITACHI** Corporation



EXAMPLE
Apple®
PowerMac 4400/200
+ 15" monitor
£58.10 per month

SEE APPLE PANEL
FOR SPECIFICATION

CASH PRICE (£1099 + VAT) £1291.32. DEPOSIT £129.32 (10%)
FOLLOWED BY 24 EQUAL PAYMENTS OF £58.10. TOTAL
CREDIT PRICE £1523.72. FLAT RATE 10% (APR 19.7%).
DABS DIRECT PLC IS A LICENCED CREDIT BROKER -
LICENCE NO. 416582

StarMax

StarMax 3000 Systems (PowerPC 603e)

3100 Desktop	3100 Mini Tower	3200 Desktop	3200 Mini Tower	3240 Mini Tower
Processor 180MHz	180MHz	200MHz	200MHz	240MHz
Memory 16Mb	32Mb	16Mb	32Mb	32Mb
VRAM 1Mb	1Mb	1Mb	1Mb	4Mb
Hard Disk 1.2Gb	2.5Gb	1.2Gb	2.5Gb	2.5Gb
PCI Slots 3	5	3	5	5
Drive Bays 2 External, 1 Internal	3 External, 2 Internal	2 External, 1 Internal	3 External, 2 Internal	3 External, 2 Internal
Price £799	£899	£1099	£1249	£1599

StarMax 4000 Systems (PowerPC 604e)

4160 Desktop	4160 Mini Tower	4200 Desktop	4200 Mini Tower
Processor 160MHz	160MHz	200MHz	200MHz
Memory 16Mb	32Mb	16Mb	32Mb
VRAM 2Mb	2Mb	2Mb	2Mb
Hard Disk 1.2Gb	2.5Gb	1.2Gb	2.5Gb
PCI Slots 3	5	3	5
Drive Bays 2 External, 1 Internal	3 External, 2 Internal	2 External, 1 Internal	3 External, 2 Internal
Price £1299	£1499	£1849	£1949

All models include: 256k Level 2 Cache, Internal 1.44Mb SuperDrive, Internal 8x CD-ROM Drive, Stereo 16-Bit Sound I/O, Keyboard & Mouse, Five-Year (1st year on-site) Manufacturer's Warranty.



Dicasso

Mac OS
PowerPC

DABS DIRECT



The NEW *Dicasso*
range of Mac™OS
machines by
Dabs Direct

...available soon

3 DRIVES IN ONE!

NOMAI 680.RW

CD-RECORDABLE/REWRITABLE
COMPACT DISC DRIVE



NOMAI
The Media Choice



All your favorite media is
available with the NOMAI
quality brand name.

Each removable cartridge or
disk carries a 5 year warranty
and a track record of success
with millions of NOMAI media in
use worldwide.

NOMAI 680.RW
CD-RECORDABLE/REWRITABLE
COMPACT DISC DRIVE

only **£379** plus VAT

• **3 Drives in 1:** Unique multi-function concept combining 6x CD-ROM reader, 2X CD-Recorder and the world's first 2X CD-ReWritable drive!

The NOMAI 680.RW is a 6X CD reader which will play any CD type (CD-ROM, CD-Audio, CD-Video, ...)

In addition to recording information on low cost CD-Recordable (CD-R) media, the NOMAI 680.RW is also the first drive on the market to write and rewrite newly standardised CD-ReWritable (CD-RW) discs.

• Endless high capacity mobile storage at a very attractive cost per megabyte - Use CD-Recordable or CD-ReWritable, depending on the task at hand.



MONITORS

APPLE

MultiScan 15"	220
MultiScan 15" AV	299
AppleVision 1705	399
AppleVision 1710	499
AppleVision 1710AV	549
MultiScan II 20"	1129

CTX

1451CLR 14"	109
1565S 15"	166
1569MS 15" & Speakers	199
1765S 17"	299
1785S 17"	320
1785XE 17"	332
1785XA 17" DiamondTron	389
2085XE 20"	629
2185XE 21"	815

HITACHI

CM500ET 15"	229
CM620ET 17"	369
CM630ET 17"	439
CM611ET 17"	535
CM2096 20"	759
CM802E 21"	899
CM802ET 21"	1069
CM803ET 21"	1369
LCD DT3130	1026

IYAMA

MF 8515G 15"	229
MF 8617E 17"	415
MF 8617ES 17"	449
MT 9017E 17"	449
MF 8221T 21"	925
MF 8721T 21"	959
MT 9021E 21"	959

MITSUBISHI

DiamondPro 67TVX 17"	399
DiamondPro 87TXM 17"	439
DiamondPro 91TXM 21"	999

NEC

Multisync XV15+	243
Multisync M500	258
Multisync XV17+	417
Multisync M700	425
Multisync P750 17"	558
Multisync E1100 21"	935
Multisync P1150 21"	1026

NOKIA

ValueGraph 447V 17" & Speakers	399
ValueGraph 449E 17" Trinitron	495
ValueGraph 447Xi 17" Trinitron	531
ValueGraph 447Xav 17" & Speakers	618
MultiGraph 445Xi 21"	999

RADIUS

Intellicolor 20/f	969
PrecisionView 21	1119
Pressview 17SR	1685
Pressview 21SR	2869

SONY

MultiScan 100sx 15"	224
MultiScan 100sft 15"	257
MultiScan 200sx 17"	383
MultiScan 200sft 17"	448
MultiScan 17sell 17"	585
MultiScan 300sft 20"	898
MultiScan 20sell 20"	1029
MultiScan 20sh 20"	1479

REMOVABLE DRIVES

d2

Jaz 1Gb External	299
------------------	-----

IOMEGA

Zip 100Mb External	89
Jaz 1Gb External	284

MAGNETO OPTICAL

230Mb External	294
640Mb External	355
Pinnacle Vertex 2.6Gb External	829
Pinnacle Apex 4.6Gb External	1240

NOMAI

540Mb External	189
----------------	-----

SYQUEST

270Mb External	225
EZ Flyer 230Mb External	149
SyJet 1.5Gb Internal	335
SyJet 1.5Gb External	344

All include cable, software & 1 cartridge

DAT STREAMERS

4/8Gb External	739
4/16Gb External	839

Includes cables, drivers & Retrospect Remote



Authorised Reseller

PRICE MATCHING
We can usually match
other dealers prices.
Please call for details

- ✓ Serving you since 1987
- ✓ Over £31m annual turnover
- ✓ Over 150,000 satisfied customers
- ✓ Highly trained specialist staff
- ✓ Repair & upgrade services

DABS DIRECT

PERSONAL COMPUTER SYSTEMS

SALES FAX 01942 797979

WEB SITE <http://www.dabs.com>

EMAIL macsales@dabs.com

SCANNERS

ACER	
AcerScan 300F	179
AGFA	
SnapScan	169
StudioScan IIsi Lite	390
StudioScan IIsi Full	450
StudioStar	550
Arcus II & Tranny	1499
DuoScan	2795
APPLE	
Colour OneScanner 600/27	325
Colour OneScanner 1200/30	489
AVISION	
AV100CS	199
EPSON	
GTx 5000	218
GTx 8500	399
GTi 8500	510
GTi 9500	518

HEWLETT PACKARD

Scanjet 4s	115
Scanjet 5p	225
Scanjet 4c	545
Scanjet 4c Graphics Pro	645

MICROTEK

Scanmaker E3	159
Scanmaker E6	269
Scanmaker III	719
Photoshop LE	30
Photoshop Full	130

NIKON

ScanTouch 110	189
ScanTouch 210 LE	599
ScanTouch 110 LE	259
ScanTouch 210 FULL	785
CoolScan II Int	579
CoolScan II Ext	559
Super CoolScan	1159

SHARP

JX-250	179
JX-330	710
JX-610	4299

UMAX

Model	Plug-in	LE	Plus	Pro
Astra 600S	169	189	289	488
SuperVista S12	325	345	425	750
S12 PhotoPerfect	425	449	549	899
Powerlook II				1149
Powerlook 2000				2995
Mirage D-16L A3				5495

VISIONEER

PaperPort Vx	195
--------------	-----

CAMERAS

AGFA	
ePhoto	254
APPLE	
QuickTake 200	359
CASIO	
QV-11A	249
QV-100A	399
QV-300	499
CONNECTIX	
QuickCam Mono	65
QuickCam Colour	139
FUJI	
DS-7	425
KODAK	
DC20	135
DC25	295
DC50	399
DC120	689
OLYMPUS	
C-400	209
C-410L	399
C-800L	644
SANYO	
DigiCam	469
SONY	
DSC-F1	532

DIGITISERS

WACOM	
ArtPad II + Dabblar	99
A5 UltraPad	199
A5 UltraPad+Painter	315
A4 UltraPad	299
A4 UltraPad+Painter	405
A3 UltraPad	479
A3 Electrostatic	599
A2 UltraPad	1299



MICROLIN 33.6 for Mac

The ideal modem solution for your Mac

Data transfer • Send & receive fax • Internet access • e-mail

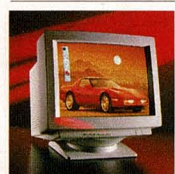
- 33.6Kbps desktop modem
- High speed send and receive fax
- Error correction & data compression
- Extension socket for parallel telephone connection
- Complete with cables and fax & data comms software
- Free Internet trials

£99



HITACHI

The true definition of a monitor



CM620ET

17-INCH COLOUR
DISPLAY MONITOR

- Best value colour monitor for GUI applications
- 0.22mm horizontal mask pitch
- Flicker Free (75Hz) at up to 1152 x 770 resolution
- PC, Mac and Workstation compatible
- TCO '92 compliance
- 3 year on-site replacement warranty

£369

Masters of Monitor Technology

HITACHI



XCLAIM™ 3D

Offering phenomenal 3D and 2D graphics performance for design and multimedia professionals. It's all you need to turn your PCI Mac into a graphics powerhouse.

XCLAIM™ 3D 4Mb **£149**

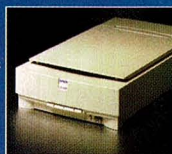
XCLAIM™ 3D 8Mb **£199**

EPSON

GTx-9500

SCANNER

- 4800 dpi and 36 bits per pixel in colour
- SCSI interface
- Advanced scanning options - TET, batch, page frame and negative film scanning
- Optional transparency unit and document feeder
- 1 year RTB warranty



£518

EPL-5500PS

LASER PRINTER

- 600 x 600dpi
- 6ppm



£567

MOTOROLA

3400 Mac 28.8

Data Fax Modem

- 28.8 kbps data/fax modem
- Worldwide compatibility
- Easy installation
- User manual Included
- 5 years warranty
- Internet software
- Telephone support
- Cables included

£73

33.6

PCMCIA PC/MAC Modem

£135

visioneer

PAPERPORT VX

World's most popular paper management system



£195

- Links to many popular applications.
- Edit, fax, file, copy and email your paper documents (printer/modem required to print/fax)
- Unique compression chip
- Exclusive SharpPage technology
- Intelligent filing system
- Annotation tools
- Includes SCSI Adapter worth £45

Award winner! PaperPort has won more awards than any other product in its class!

GCC TECHNOLOGIES



GCC Elite 1212

- A4 Edge to Edge printing
- 1200 x 1200 dpi
- 50MHz RISC processor
- 12 pages per minute
- Ethernet 10BaseT and 10Base2
- 8Mb RAM (expandable to 64Mb with 72 pin SIMMS)
- Postscript level 2, PCL5
- MacOS, Windows 3.1, 95, NT

£1079

VIDEO BOARDS

ATI

Xclaim 3D 4Mb	142
Xclaim VR 4Mb	189
Xclaim 3D 8Mb	196

FORMAC

ProVision 2/20 - 2Mb	142
ProVision 2/40 - 4Mb	190
ProVision 4/60 - 4Mb	299

IMS

TwinTurbo 128 2Mb	149
TwinTurbo 128 4Mb	229
TwinTurbo 128 8Mb	359

MATROX

Millenium 4Mb WRAM PCI	159
Millenium 8Mb WRAM PCI	269

MIRO

DC20 LE	489
DC20	649

NUMBER 9

Imagine 128 4Mb PCI	369
Imagine 128 8Mb PCI	549

RADIUS

Precision Colour 8/1600	295
Thunder 30/1600	639

MODEMS

APPLE

Geoport adaptor II	105
Performa Personal Comms kit Modem 28K8	175

GLOBAL VILLAGE

Teleport Platinum 33k6 Internet	117
Powerport Gold PCMCIA	132
Powerport Platinum PCMCIA	245

HAYES

Accura 336	92
Accura 336 Voice	102

LASAT

Safire 33k6	98
-------------	----

PACE

Microlin 33k6	99
---------------	----

SUPRA

Express 36K6 V34+	135
-------------------	-----

US ROBOTICS

Sportster Voice 33k6	97
Sportster X-Jack 28K8 PCMCIA	108

ZOOM

14k4 Fax/Modem	39
----------------	----

PRINTERS

APPLE

Colour StyleWriter 1500	149
Colour StyleWriter 2200	229
Colour StyleWriter 2500	229

CANON

BJC-4550	273
BJC-5500	484

EPSON

Stylus 600	203
Stylus 800	297
Stylus 1520	543
Stylus Pro XL+ A3	785
Postscript Upgrade	160

FARGO

Fotofun	349
Primera Pro	1299

HEWLETT PACKARD

DeskWriter 320+ASF	140
DeskWriter 340C+ASF	189
Deskjet 870Cxi	265
DeskJet 1600CM	1207

LASERS

APPLE

LaserWriter 4/600PS	575
LaserWriter 12/640PS	1099
LaserWriter 16/600PS	1399
LaserWriter Colour 12/660PS	4499

EPSON

EPL-5500PS	567
------------	-----

GCC

Elite XL 608	2099
Elite XL 616	2495
Elite 1212 A4	1079
Elite XL 808 A3	2899
Elite XL 1208 A3	3599

HEWLETT PACKARD

LaserJet 6MP	514
LaserJet 5M	950
LaserJet 4MV	1643
LaserJet 5SiMX	2272
Colour LaserJet 5M	3428

Open 9.00am to 5.00pm Monday to Friday • 10.00am to 3.00pm Saturday

Excellent Quality • Superior Service • Unbeatable Value



freephone

0800 680000



THE EX-VAT PRICES LISTED ARE FOR BUSINESS PURCHASERS ONLY.
CONSUMERS SHOULD TELEPHONE TO CHECK THEIR PRICES.

BOLTON 01942 794040 EDINBURGH 0131 556 4114 LONDON 0171 582 4777 WOKING 01483 797676

CABLES

Length	1m	2m	5m
Macintosh Printer	-	5	8
Modem MD8-D25M	-	10	-
Localtalk Cable	-	5	7
SCSI D25M - C50M	6	-	-
SCSI D25M - HC50M	10	-	-
SCSI C50M - C50M	8	12	-
SCSI HC50M - C50M	10	12	-
SCSI HC50M - HC50M	10	18	-
SCSI HC68 - C50M	15	-	-
SCSI HC68 - HC50M	18	-	-
SCSI HC68 - HC68M	20	-	-

Localtalk Kit	12
Phonenet Kit	10
ADB Splitter	8

ORIGINAL INKJET CARTRIDGES

APPLE

M8041	SW1200/1500 Black	14
M4609	SW1500 Colour	23
M3909	CSW2200 Black	26
M3908	CSW2200 Colour	31
M3912	CSW2200 Black Tank	12
M3911	CSW2200 Colour Tank	17
M3240	CSW2500 Black	24
M3328	CSW2500 Colour	31
M3330	CSW2500 Black Tank	8
M3329	CSW2500 Colour Tank	13

EPSON

S020047	Stylus 820/1115/200 Black	14
S020049	Stylus 1115/200 Colour	18
S020093	Stylus 500/600 Black	14
S020097	Stylus 200/500 Colour	18
S020108	Stylus 800 Black	10
S020089	Stylus 600/800 Colour	22
S020034	Stylus Colour/Pro Black	10
S020036	Stylus Colour/Pro Colour	22
S020066	Stylus Pro XL+ Colour	22

HEWLETT PACKARD

51626A	Deskjet 500 Black	15
51625A	Deskjet 500 Colour	16
51629A	Deskjet 600/660/890 Black	16
51649A	Deskjet 600/660/890 Colour	18
51645A	Deskjet 820/850/870 Black	16
51641A	Deskjet 820/850/870 Colour	18
51645A	Deskjet 1600 Black	16
51640C/M/Y	Deskjet 1600 Colours	19
51639A	Paintjet XL300 Black	13
51639C/M/Y	Paintjet XL300 Colours	14

ORIGINAL TONERS

APPLE

M2473	LW 600/630/16/600	85
M0180	LaserWriter Plus	65
M2045	LW 300/320/4/600	45
M1960	LW Select 300/310/360	70
M0089	Personal LW LS/SC/NTR	47
M4683	LaserWriter 12/640PS	89

EPSON

S050005	EPL-5500	39
---------	----------	----

HEWLETT PACKARD

92275A	LaserJet IIP/IIP	46
92295A	LaserJet II/III	42
92298A	LaserJet 4M/4M+/5M	54
92274A	LaserJet 4M/4MP	39
C3900A	LaserJet 4MV	91
C3903A	LaserJet 5MP/GMP	45
C3909A	LaserJet 5SiMX	119

GCC

AC-15032	Elite 600	75
AC-15616	Elite XL616/608/808/1208	150

STATIONERY

EPSON

SE41001	T-Shirt Transfer Pack	12
S041059	A4 360dpi 100sht	9
S041061	A4 1440dpi 100sht	11
S041071	A4 Photo Glossy 1440dpi 15sht	20
S041079	A2 Photo 1440dpi 30sht	23
S041065	A3 Coated 360dpi 100sht	17
S041068	A3 Coated 720dpi 100sht	22
S041066	A3+ 360dpi 100sht	20
S041069	A3+ Photo 1440dpi 100sht	27
S041073	A3 Photo Glossy 1440dpi 10sht	32
S041074	A3+ Photo Glossy 1440dpi 10sht	40

HEWLETT PACKARD

51634Z	A4 Premium 200sht	16
C3831A	A4 Premium Glossy 10sht	9
C3837A	A4 Premium Glossy 50sht	36
C3832A	A4 Premium Transparencies 20sht	18
C3835A	A4 Premium Transparencies 50sht	33

TextBridge PRO

- HTML Output
- Instant Access OCR
- DocuRT OCR Engine for superior accuracy
- Format retention of cell tables and multiple columns
- High accuracy on degraded documents
- Word Training
- Support for 11 European languages
- Outputs to all common WP formats
- Upgrade your bundled OCR for only £79

only £139

ePhoto 307

Digital Camera



Includes: Agfa PhotoWise and Adobe PhotoDeluxe software

ePhoto 307 £254

- Stores 36 high resolution photos at 640x480 pixels or 72 low resolution photos at 320x240 pixels
- High quality 24 bit colour images
- 43mm glass lens (equivalent to a 35mm camera)
- Built-in auto flash from 3 ft - 10 ft (0.9m - 3m)
- Focus free from 2 ft - infinity (0.6m - infinity)
- Ten second self timer

AGFA The complete picture.

zip 100



Zip is 20 times as fast and offers 70 times the space of a traditional floppy.

- 100Mb capacity per diskette
- Available as Macintosh or PC models
- Transfer rate up to 1.4Mb per second
- 1 year warranty for Zip Drive
- Zip diskettes with limited lifetime warranty
- Zip Tools™ utility software

External £89 100Mb disk £10

jaz 1GB



Jaz has no limits. With 1Gb capacity per disk. Jaz is revolutionising storage technology.

- 1Gb capacity per disk
- Available as Macintosh or PC models
- Transfer rate up to 6.62Mb per second
- Jaz Tools™ utility software

External £284 1Gb cart £60



Special Offer Retrospect 3.0 only £69 when purchased together with a Zip or Jaz drive, a saving of £56



ClarisWorks INTERNET EDITION£70

CLARIS

ClarisWorks 4.0 Internet Edition provides a full set of office productivity and Internet software to handle office needs.

- All the office you need
- Combine word processing, spreadsheet, charting, presentation, graphics and paint tools all on a single page.

- 40 customised small business templates
- Create brochures, newsletters, advertisements, financial statements and more.

- Easy Internet access and reference books

Get on the Internet in minutes via a selection of Internet service providers and Netscape Navigator. The ABC's of the Internet and Internet Yellow Pages books on CD-ROM take advantage of the fast resources available on the Net.

- Create web pages with Claris Home Page 2.0

Create and publish dynamic web pages in minutes without having to learn HTML or programming

- Powerful word processing for professional results

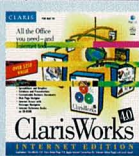
Layout forms and complex documents, customise tabs, margins, indents, line spacing and so forth.

- Spreadsheets and charts bring numbers to life

100 built-in functions let you analyse data using multiple options. Chart data with 12 chart types, add colour, 3D effects, gradients and labels for complete formatting

Package Contents

- ClarisWorks 4.0
- Claris Home Page 2.0
- Apple Connection Kit 2.0
- Internet Yellow Pages ABC's of the Internet books on CD-ROM
- Internet Access



For Power Mac

Microsoft WINDOWS™ COMPATIBLE

SoftWindows 95

for Power/Macintosh

NEW VERSION 4.0

Includes Microsoft® Windows® 95

only £259

Featuring TurboStart

Windows 95 Launch Accelerator

30% Faster
faster than hardware cards running on a fast Mac

Internet-ready
includes: Microsoft Internet Explorer™ support ActiveX™ and Java™

Runs all Pentium programs
For all Power Macs
the only solution for PowerPC PowerBooks™

NETWORKING

APPLE

BNC/TP Transceiver	34
AUI Transceiver	54
CommsSlot UTP/BNC	55
CommsSlot AUI	55

ASANTE

UTP Transceiver	35
NuBus UTP Card	79
BNC Transceiver	38
NuBus BNC Card	85
UTP+BNC Transceiver	65
NuBus UTP+BNC Card	99
PCI Card	62
PCMCIA UTP	120
PCMCIA BNC+UTP	145
AsantePrint Print Server	195

ASANTE HUBS

Plug & Play 8port + AUI + BNC	105
Plug & Play 12port + AUI + BNC	225
Plug & Play 24port + AUI	345

ASANTE FAST

AsanteFast 10/100 PCI Card	145
AsanteFast 100 12 port Hub	1119

DAYNA

DaynaStar MiniHub5 Sport	63
DaynaStar MiniHub8 Sport	79
DaynaStar Hub-16 16port	275
BlueStreak 100baseTX 12port	989

CARTRIDGES/DISCS/CD'S

DISCS

	10	100	250
1.44Mb DSHD	50	40	35
650Mb CD Recordable	7.00	6.00	5.00
650Mb CD ReWritable	22.00	21.00	20.00

DATA CARTRIDGES

2Gb/4Gb 90m DAT	8
4Gb/16Gb 120m DAT	15

MO DISCS

128Mb	8
230Mb	9
1.3Gb	59
2.6Gb	115

NOMASQUEST CARTRIDGES

44Mb	22
88Mb	23
200Mb	35

SIQUEST ORIGINAL CARTRIDGES

44Mb	25
88Mb	28
135Mb	15
200Mb	42
270Mb	37

OMEGA CARTRIDGES

Zip 100Mb	10
Zip 100Mb 6pack	50
Jaz 1Gb	60
Jaz 1Gb 3pack	175

SOFTWARE

ACCOUNTING

Ritz Accounting	264
Ritz Median	129
Ritz Platinum	435
Ritz Platinum Plus	599
Ritz Payroll	135
Soft Numbers MYOB v6.0	142

BUSINESS

Corel WordPerfect v3.51	105
Clarisc MacWrite Pro v1.5	45
Microsoft Excel v5.0	225
Microsoft Project v4.0	289
Microsoft Word v6.0	225
Now Up-To-Date v3.0	49
Route 66	34
Route 66 Ultimate Traveller	79

CAD

GraphSoft MiniCAD v6.0	450
IDD MacDraft v4.2	225

COMMUNICATIONS

CE QuickMail Pro 1u	45
CE QuickMail Pro 5u	139
CE QuickMail Pro 10u	269
Clarisc Apple Internet Connection Kit	49
Clarisc Emailer v2.0	38
Synergy Versatilities	56
Vicom Connect II	109

DATABASE

ACI 4th Dimension v3.0	590
ACI 4D First	95
Clarisc FileMaker Pro v3.0	135
Microsoft Fox Pro v2.1	72



Authorised Reseller

PRICE MATCHING
We can usually match
other dealers prices.
Please call for details

- ✓ Serving you since 1987
- ✓ Over £31m annual turnover
- ✓ Over 150,000 satisfied customers
- ✓ Highly trained specialist staff
- ✓ Repair & upgrade services

DABS DIRECT

PERSONAL COMPUTER SYSTEMS

SALES FAX 01942 797979

WEB SITE <http://www.dabs.com>

EMAIL macsales@dabs.com

SOFTWARE

DTP & FONTS

Adobe Type Basic	79
Adobe Type-on-call	35
Adobe TypeManager	25
Adobe ATM Deluxe v4.0 CD	45
Adobe ATM Deluxe v4.0 FD	53
Adobe FrameMaker v5.1	439
Adobe PageMaker v6.5	339
Adobe Publishing Collection	796
Adobe Type Reunion	26
Adobe Type Set Value Pack	28
Adobe ValuePack	28
Adobe Wild Type	30
Altsys Fontographer v4.1	297
Extensis Page Tools	79
Extensis QX Tools	79
QuarkXPress v3.32	609
Softpress UniQuorn	236

GRAPHICS

Adobe Acrobat v3.0	136
Adobe AfterEffects v3.0	448
Adobe AfterEffects Pro v3.0	902
Adobe Beeline	92
Adobe Dimensions v2.0	84
Adobe Graphics Collection	485
Adobe Illustrator v7.0	£249
Adobe Persuasion v3.0	208
Adobe PhotoDeluxe	68
Adobe Photoshop v4.0	339
Adobe Premiere v4.2	335
Adobe Publishing Collection	796
Adobe Screenready	98
Adobe Streamline v3.1	83
Adobe TextureMaker	90
Alien Skin Eye Candy v3.0	75
Broderbund Incredible Image Pack	22
Claris Draw v1.0	89
Claris Impact v2.0	89
Connectix Photomate	29
Corel Draw Suite	249
Corel Photo Library	549
Deneba Canvas v5.0	295
Equilibrium Debabelizer Lite	83
Equilibrium Debabelizer	260
Extensis Draw Tools	79
Extensis Fetch v1.5	79
Extensis Intelligence v2.0	315
Extensis Photo Tools	79
Fractal Dabbler v2.0	24
Fractal Detailer	194
Fractal Expression	194
Fractal Painter v4.0	214
Fractal Poser v2.0	137
Fractal Sketcher	55
GDT PowerPlot	240
GDT PowerPrint v3.0	69
GDT PowerPrint/LT v3.0	169
GDT StyleScript v3.0	72
Graymatter Screen Cafe Pro	99
MetaTools KPT Bryce v2.0	135
MetaTools KPT Bryce Actions	49
MetaTools KPT Convolver	89
MetaTools KPT Vector Effects	89
MetaTools KPT Final Effects v3.0	335
MetaTools KPT Final Effects AP	89
MetaTools KPT Power photos	89
MetaTools Kai's Power Goo	39
MetaTools Kai's Power Tools v3.0	85
MetaTools Soap	39
Live Picture v2.5	645
Macromedia Extreme 3D	369
Macromedia FreeHand v7.0	279
Macromedia FreeHand Graphics Studio	399
Macromedia Smart Sketch	45
Macromedia xRes v3.0	255
Microsoft Powerpoint	399
Quark Immedia	639
Quark Immedia/xPress bundle	986
RayDream Add Depth	38
RayDream Designer v4.0	85
RayDream DreamPack	125
RayDream Jag II	28
RayDream Studio	269
Specular Collage v2.0	79
Specular Infini-D v5	359
Specular LogoMotion v2.0	88
Specular TextureScape v1.5	98
Strata Clip 3D Library	99
Strata Extend Clouds	29
Strata Extend Ripples	29
Strata Fractal Terrain Modeler	58
Strata Instant Replay	67
Strata Media Paint	299
Strata Rend-X	45
Strata Render Pro v2.5	138
Strata Secrets	41
Strata Studio Pro v2.0	595
Strata Type 3D v2.0	89
Strata Virtual 3D	135
Strata Vision 3D	145

M.Y.O.B.

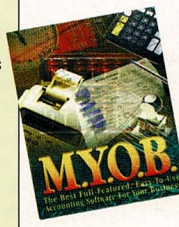
The Best Full-Featured, Easy-To-Use Accounting Software For Your Business

M.Y.O.B. has it all

- Nominal Ledger
- Chequebook
- Flexible Invoicing
- Records and Analyses Sales
- Tracks Debtors and Identifies Slow Payers
- Automatically Create and Track Purchase Orders
- Records Creditors and Reminds of Expiring Discounts
- Handles Quotes & Estimates
- Flexible Stock Management
- Comprehensive Financial and Management Reporting
- Report Customiser
- Job Management
- Electronic Card File with Contact Management
- Custom Forms Designer
- To Do List
- Interactive Cash Flow "What if...?" Analysis

Use it all or just what you need

An international award-winner,
M.Y.O.B. Accounting is your best choice for Easy-to-Use, Full-Featured Accounting Software



"One of the most complete, sophisticated and accessible small business accounting packages currently available for the Mac."

Mac User

only £142 plus VAT

System requirements

A Minimum of - 68020 or higher microprocessor and 1.44 Mb 3.5" drive with at least 5 Mb RAM, Mac OS System 7.0 or later, hard drive with approximately 9 Mb of free space

Mind Your Own Business - and leave the accounting to M.Y.O.B.

TERMS

EU residents add 17.5% VAT to all prices

We also supply many products not listed here. Export orders welcome, carriage charged at cost. Official orders accepted only from public sector/education/listed PLCs. Prices listed are CWO (cheques, cash, credit/debit card, postal order, bank transfer, bankers draft). Surcharge applicable on business cheques using ChequeSpread.

Finance/leasing available subject to status. Written details available upon request.

14 day credit terms available to public sector & quoted PLC's only.

Personal cheques over £1000 or without cheque card and business cheques which do not include ChequeSpread surcharge may take up to 14 days to clear.

Prices and manufacturers specifications subject to change without notification. Goods offered subject to being unsold. Goods not offered on a trial basis. All returns must have prior authorisation. Goods faulty on arrival will be replaced/refunded. After 28 days, goods will be repaired free of charge under warranty. All orders are subject to our terms & conditions, available upon request. E&OE [12.05.97]

RESTOCKING FEE CHARGED ON NON-DEFECTIVE RETURNS.

DUE TO CURRENCY FLUCTUATIONS ALL PRICES MAY CHANGE

CARRIAGE

HARDWARE/SOFTWARE (PER ORDER)	
Standard GB 1-3 working day Delivery	£10.00
Next working day Delivery	£15.00
N Ireland/Highlands/CI/10M 1-3 Days	Call
Saturday Delivery (Mainland GB)	£30.00
SMALLER/LOWER VALUE ITEMS	
Standard UK 1-3 working day Delivery	£5.00
Next working day Delivery	£7.50
Call for quotes on other areas/times	

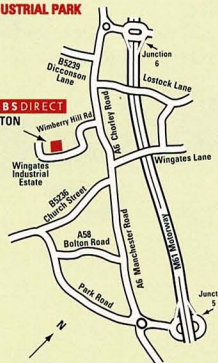
PRICES ARE PER ORDER NOT PER BOX. ALL DELIVERY TIMES SUBJECT TO CLEARED FUNDS, BEING IN STOCK AND UNSOLD. PLEASE ADD VAT TO ALL PRICES.

IMPORTANT NUMBERS

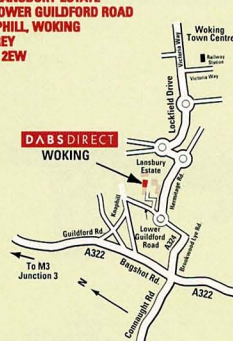
EDINBURGH	Sales	0131-556 4114
LONDON	Sales	0171-582 4777
BOLTON	Sales	01942 794040
	Fax	01942 797979
WOKING	Sales	01483 797676
	Fax	01483 799510
EXPORT	Sales	01942 794040
All Customer Services		
		01942 794020
General Tech Support (After Sales)		01942 794230

HOW TO FIND US

**DABS DIRECT PLC
DIRECT HOUSE
30 WINGATES INDUSTRIAL PARK
WESTHOUGHTON
BOLTON
BL5 3XU**



**DABS DIRECT PLC
THE LANSBURY ESTATE
102 LOWER GUILDFORD ROAD
KNAPHILL, WOKING
SURREY
GU21 2EW**



SOFTWARE

INTEGRATED PACKAGES

Claris Works v4.0	87
MS Office v4.21 Student	70
MS Office v4.21	329
MS Works v4.0	72

INTERNET PUBLISHING

Adobe PageMill v2.0	61
Adobe SiteMill	135
CE Web Arranger	53
Claris HomePage v2.0	62
Claris Works Internet Edition	70
DataViz Web Buddy	42
Extensis CyberPress	119
NetObjects Fusion	369
Specular Weburst	179
Symantec Java Café	105
SoftQuad Hotmetal Pro	99

MULTIMEDIA

Astound v2.03	145
Avid Elastic Reality	185
Avid Multimedia Bundle	269
Avid Session	195
Avid TransJammer Vol 1	55
Avid TransJammer Vol 2	55
Avid VideoShop v3.0	195
Gryphon Morph v2.5	76
Macromedia Director v6.0	749
Macromedia Director Multimedia Studio v6	819

OCR

Caere OmniPage Direct v2.0	65
Caere OmniPage v7.0	315
Xerox TextBridge v3.0	37
Xerox TextBridge Pro v3.0	139

UTILITIES

Aladdin Stuffit Deluxe v4.0	59
Cassidy Conflict Catcher v4.0	55
Cassidy SnapMail v2.0 5u	135
Cassidy Spell Catcher	47
Claris Organiser v1.0	45
Central Point Mac Tools Pro v4.0	78
Connectix RAM Doubler v2.0	39
Connectix Speed Doubler	38
Dantz Retrospect	69
Dantz Retrospect Remote	129
Datawatch Virex	63
Datawatch Virex with subs	127
Farallon Timbuktu Pro	185
FWB HD Toolkit Personal	43
FWB HD Toolkit	99
FWB SpaceMaker	43
FWB Turbo Toolkit	43
Highwire FileGuard	125
Highwire PopUp Folder	29
Insignia Mac transfer	39
Insignia SoftWindows 95 v4.0	259
Now Contact/Up to Date	50
Now DateBook & TouchBase	45
Now Utilities v6.0	40
S&S Dr Solomons AntiVirus	39
Software Architects DOS Mounter 95	65
Steinberg Cubase VST v3.0	219
Steinberg Cubase Score VST v3.0	319
Software Architects Formatter v5.0	110
Symantec DiskDoubler	49
Symantec Norton Utilities v3.2	65
Symantec SAM v4.5 no subs	47
Symantec SAM v4.5 with subs	47
Symantec Suitcase v3.0	92

SOFTWARE UPGRADES

ADOBE

Acrobat v3.0 VU	49
Illustrator v6.0 VU	128
Illustrator v5.5 - v6.0	93
PageMaker VU	93
PageMill v2.0 VU	35
PageMill - SiteMill	75
Photoshop v4.0 VU	139

INSIGNIA

SoftWindows 95 v3.0 - v4.0	69
SoftWindows v3.0 - 95 v4.0	119
SoftWindows v1.0/v2.0 - 95 v4.0	119

MACROMEDIA

FreeHand v5.5 - v7.0	145
FreeHand v7.0 CU	215
Freehand Graphics Studio v7.0 VU	175
Director Multimedia Studio VU	419

MICROSOFT

Office v4.2	169
Office v4.2 Claris Competitive Upgrade	169

XEROX

Textbridge v3.0	49
Textbridge Pro v3.0	79

Please call for other upgrades.
We usually require the previous version serial number before ordering your upgrade

Open 9.00am to 5.00pm Monday to Friday • 10.00am to 3.00pm Saturday

Excellent Quality • Superior Service • Unbeatable Value



PRICE £19.95	ON SALE Now	CONTACT Iona Software on 0181 296 9454	WEB SITE http://indigo.ie/~ionasoft/home.html
MAC Processor: 68030 • RAM: 8Mb	POWERMAC Processor: any • RAM: 8Mb	REQUIRES System: 7.0.1 • Screen: 640 x 480 • Colours: 256 •	
Extras: 2x speed CD-ROM drive	AGE RANGE Three to seven years		

Stanley's Sticker Stories



Children love to plaster their doors, walls, toys and furniture with stickers. Luckily, the ones in this CD are much more fun and won't leave a nasty stain when you want to remove them...

It's time to get out of the house. After *Millie's Math House*, *Bailey's Book House*, *Sammy's Science House* and even *Trudy's Time & Place House*, Iona has finally decided to break with tradition and create *Stanley's Sticker Stories*. Stanley is a more free-ranging character than his predecessors, being equally at home on the beach, at the bus stop, reclining by the pool or larking about at the playground. Stanley's a sociable chap and his best friends include the aforementioned Millie, Bailey, Sammy and Trudy. They all come out to play in this great piece of interactive kids' multimedia.

Unlike the animated book approach adopted by developers such as Living Books and Disney Interactive (where the story is the same every time you visit the CD), this is an altogether more creative experience. The idea here is to make up all your own stories, complete with words, pictures, animation and sound effects. It's a tall order, especially for the younger ones in the three-to-seven-year-old age group, but Stanley is here to help with lots of tricks and tips up his sleeve.

For starters, Stanley will explain at length exactly what his software can do and how it does it. With the help of slide-



Should Millie board the bus or race it to school? Click the mouse and you can send her into a blur of animated frenzy.

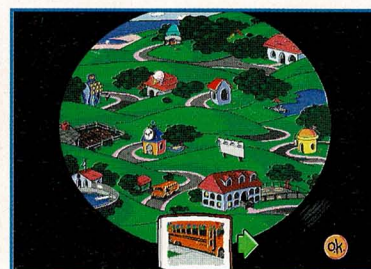
shows and animated sequences, your child is shown all the amazing possibilities – and then it's just one small step to creating a picture book. The first thing to do is pick a location, and there's over a dozen here, including homes, gardens, playgrounds, towns and the beach.

The real fun begins when you start to populate your scene with characters from the cast. There are "stickers" for all Stanley's friends, as well as all sorts of props arranged in sections relevant to the different backdrops. Go to the beach, for example, and you'll find buckets, spades, inflatable boats, deck chairs and so on. For a more zany approach, you can also use the stickers out of context in the "wrong" sort of backdrop – buckets and spades at the bus stop, for example.

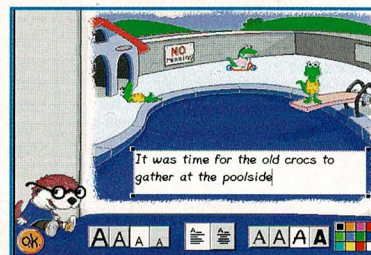
A nice touch is the intuitive control system, which automatically scales the characters and props to the correct size as you move them around the scene. You can also flip them around to face the opposite direction with a swifter movement of the mouse. Many of the characters have animation options as well, so you can bring your pictures to life.

Stories need words, too, of course. There are a range of fonts and type sizes available that cater to different ages and tastes, and you can either add words to the pictures or interleave pages of text with picture pages for more professional results. There are simple options for adding, editing and changing the order of pages too, so you can change your mind as much as you like.

Sound effects add yet another layer to the production process and while many



There's over a dozen great backgrounds to choose from, as well as blank pages for interleaving picture and text pages too.



Simple options for choosing fonts, type size, style and text colour are all available for adding words to your pictures.

pre-recorded sounds are archived for you to choose from, there's also a set of tools for recording your own sounds. Children usually love this kind of thing, and what with the possibility to produce words, pictures, animation and sound, nothing has been left out.

For the finishing touches, you can print out your entire book, without the animation and sound effects, of course. *Stanley's Sticker Stories* is a superbly well thought out piece of software. It's bright and colourful, inventive, excellently tailored to its target age range and, above all, is one of the most interactive kids' CDs around. **MATTHEW RICHARDS**

Stanley's Sticker Stories

Much more than just another animated storybook. Your kids can make their own colourful creations, complete with words, pictures, animation and sound. Great fun.

MF rating 88%



The stickers are many and varied. Apart from the characters, there are loads of props to choose from. Here's a small sample from the beach collection.

Subscribe

and choose
any of the
gifts featured
here



Telephone 01225 822511
Fax 01225 822523
E-mail subs@futurenet.co.uk

Quote Ref.No. MCFC72 when telephoning or e-mailing your order

Please start my subscription to MACFORMAT

Name _____

Address _____

Postcode _____

Daytime telephone no _____

European Subscribers quote your EC VAT reg No _____

Please start my subscription with Issue No. _____

☐ Please start my subscription at the discount rate ticked below

☐ Please extend my subscription at the discount rate ticked below*

*If you are extending your subscription by Direct Debit, the full amount of your subscription will be debited at the time of renewal)

BEST DEAL UK Direct Debit 12 issues ☐ CD £54.88

Cheque and Credit card 12 issues ☐ CD £54.88

UK 12 issues 24 issues for the price of 16

CD ☐ £59.88 CD ☐ £79.84

Europe (inc Eire)* CD ☐ £69.68 CD ☐ £104.55

Rest of World* CD ☐ £88.08 CD ☐ £141.35

My choice of free gift is: _____

(One gift only per subscription. All are CD-ROM versions only)

*Overseas prices quoted are for air mail.

UK readers: return this coupon by Freepost to:

MACFORMAT Subscriptions, Future Publishing Ltd, FREEPOST
BS4900, Somerton, Somerset TAIL 6BR

Overseas readers: return this card (postage

payable) to: MACFORMAT Subscriptions, Future Publishing Ltd,

Carey Court, Somerton, Somerset TAIL 6TB, United Kingdom

MCFC72

☐ Please tick this box if you would prefer not to receive information on other offers

Please choose your method of payment

1. ☐ Direct Debit.

The full amount of your subscription will be deducted in advance and in one lump sum. Please complete the mandate below (Direct Debit instructions cannot be photocopied or sent via e-mail or fax)

2. ☐ Cheque (payable to Future Publishing Ltd)

(We can only accept sterling cheques drawn on a UK bank account)

3. ☐ Visa ☐ Mastercard Expires _____

Card no. _____

Signature _____ Date _____

1. Name and full postal address of your Bank or Building Society branch

To: The Manager (Bank name) _____

Address _____

Postcode _____

2. Name(s) of account holder(s) _____

Future Publishing Ref. No. (office use only) _____

3. Branch sort code

4. Bank or Building Society account number

5. Instruction to your Bank or Building Society

Please pay Future Publishing Ltd Direct Debits from the account detailed on this instruction, subject to the safeguards assured by the Direct Debit Guarantee

Signature(s) _____ Date _____

Banks and Building Societies may not accept Direct Debit Instructions for some types of account



**Subscriber
Hotline**
**01225
822511**

Subscribe

and choose
your **free** gift!



Make sure you never miss an issue of MACFORMAT! Get Britain's best selling Mac magazine delivered to your door, and choose a valuable gift when you subscribe. Just pick up the phone and call 01225 822511. Or you can use the handy form at the bottom of this page...

**Save £5 when you
pay by Direct Debit**

If you want to pay the lowest price for your copy of MACFORMAT then your best option is Direct Debit. You can save an extra £5 and still get a valuable gift. Complete the Direct Debit mandate on the reply form and post it to us today!

How to subscribe

- By Direct Debit and save £5.
Complete and return the card inserted here – please remember to complete your full bank details. Direct Debit instructions cannot be sent by e-mail or fax.
- By cheque – return your cheque with your completed order form.
- By credit card – fill in your details on the form, or
Telephone: 01225 822511* or Fax: 01225 822523
E-mail: subs@futurenet.co.uk*
World Wide Web:
<http://www.futurenet.com/mags/macformat/macformat.html>*
*Quote ref. No. **MCFP72** if telephoning or e-mailing your order.

Current subscribers!

You can extend your subscription with this offer and choose any of the gifts featured.

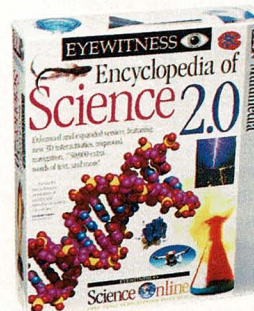
Money-back guarantee

We think you'll love MACFORMAT. We're so sure, we'll even guarantee you a full refund for all un-mailed copies if you decide to cancel your subscription. No risk, no fuss.

12-ISSUE SUBSCRIPTION RATES:

CD edition	■ UK Direct Debit £54.88	■ UK Cheque/credit card £59.88
	■ Europe (incl Eire) £69.68	■ Rest of World £88.08

Choose your gift

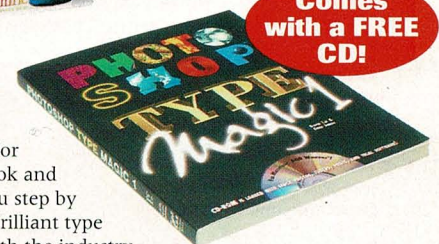


Encyclopedia of Science
RRP £39.99

A new version of the CD-ROM reference classic for ages 12 and older, with 40 video sequences, 80 animations, over 900,000 words of text, 3D models and much more. See our review on page 102.

**Photoshop
Type Magic**
RRP £32.99

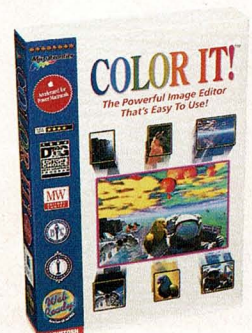
Like a cookbook for designers, this book and CD-ROM take you step by step through 45 brilliant type tricks to create with the industry-leading image editor. The CD-ROM offers demos, fonts, images, filters and more to help you follow the book's imaginative projects.



**Comes
with a FREE
CD!**

Color It! 3.2 RRP £29.99

MicroFrontier's brilliant full-colour paint and graphics manipulation package with a huge range of tools and features, including full CMYK support, Levels and Curves filters, Kernel Brush and more. On CD with complete manual in Acrobat format, free filters and extra demos.





PRICE £25	ON SALE Now	CONTACT Brøderbund on 01429 855000	WEB SITE http://www.brøderbund.com/
MAC Processor: 68030 • RAM: 8Mb	POWERMAC Processor: any • RAM: 8Mb	REQUIRES System: 7.0 • Screen: 640 x 480 • Colours: 256 •	
Extras: 2x speed CD-ROM drive	AGE RANGE Three to seven years		

Arthur's Birthday



Cake, presents, games, silly hats and fizzy drinks. Arthur goes from interactivity to hyperactivity – it's party time...

By the book

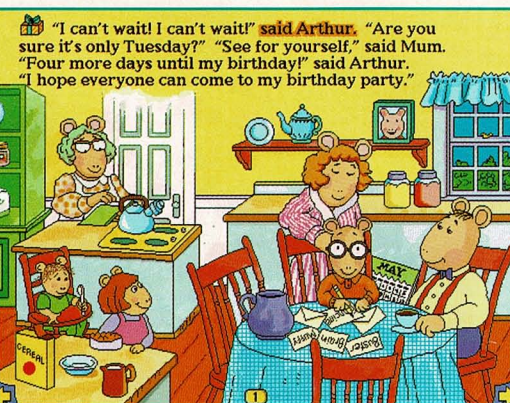
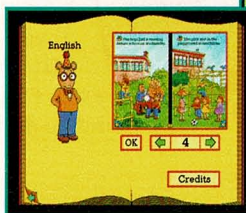
Multi-talented creator Marc Brown has written and illustrated over 100 children's books, but his *Arthur* Adventures are his finest works. Invariably, the paragon character of the young mouse is tested to the limits as simple things go horribly wrong. This time, his skills of diplomacy, imagination and caring are sorely stretched.

Living Books just about set the multimedia ball rolling with a title called *Just Grandma and Me*. The quality of illustration, animation and sound, plus a delightful sense of humour, made this the title by which children's discs were measured. The interactive book, with text being highlighted as it was read aloud by a narrator and hot-spots aplenty to click on, started a whole new genre in edutainment. But it was the second in what has become a long and illustrious series that really captured the imagination. This was *Arthur's Teacher Trouble* and, apart from being double the length of most Living Books produced before or since, it also gave fabulous animated life to the many characters within. Now Arthur's back in a frenzy of birthday party activity.

Nothing in life is ever simple, though, especially for Arthur. Just like any young mouse, Arthur's excitement is at fever pitch as the big day of his birthday party approaches. The rock band and Pickles the Clown have been booked for months, and he hurries off to school armed with all his invitations. But horror lurks just around the corner in the shape of Muffy.

Inconsiderately, Muffy has arranged her party for the same afternoon and refuses to change the date on the feeble pretext that she has relations coming all the way from Scotland for the occasion. Nobody knows what to do. Should they go to Arthur's birthday party or Muffy's?

The story begins with the excited and expectant Arthur writing out all the invitations for his forthcoming birthday party. His dad, meanwhile, prepares for his early morning caffeine fix – well worth a click on the cup.



Left: *Arthur's Birthday* runs across 13 pages, and you can get to any page from this Options screen. Here, the boys gather around Arthur, while the girls take Muffy's side.

Muffy tries the emotional blackmail approach with, "Anybody who doesn't come to my party can't be my friend," but Arthur, bless him, sets out to hatch a much more imaginative plan and save the day.

The plot unravels over 13 pages, which, in typical Living Books tradition, are crammed with hot-spots to click on. There are over 150 hot-spots throughout the book and every one is a treat. It's the imaginative and humorous animations that have always been Living Books' strong point and this title is no exception. Children need to drum their fingers on the desk and impatiently wait while the narrator reads through the text on each page before they can get at these hot-spots, though. This is the "learning" element of the game and is designed to help children to read. However, it's more likely that they'll be looking around for what to click on first rather than following the highlighted text on the screen.

However, there are a couple of downsides, too. While the simple repetition will work well for children at the lower end of the three-to-seven-year-old target age group, most kids will be frustrated that the story is exactly the same every time they see it, and that there are no games or puzzles built in. This is a criticism that has long been levelled at Living Books and, indeed, some of the recent *Dr Seuss* titles did have a game or two thrown in for an added bonus. *Arthur's Birthday*, though, reverts to the original form and looks one-paced because of it.

The other problem is that the original

American voices for *Arthur's Teacher Trouble* were so uniformly excellent that it's almost a shame Brøderbund has gone the extra mile and Anglicised everything with English accents. While the English actors do a good job, if you've seen the original it's almost like re-voicing Kermit and Miss Piggy. But, of course, for the sake of education, it's nice to have "colour" instead of "color" and "pounds" instead of "dollars". Overall, this is a loveable story with great character. It's worth buying just to find out how Arthur works around the party date dilemma.

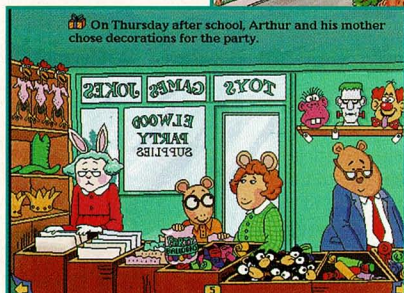
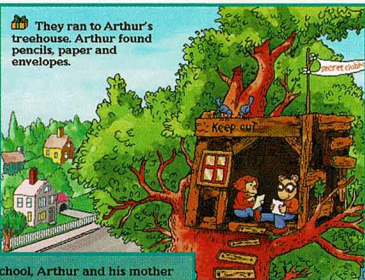
MATTHEW RICHARDS

Arthur's Birthday

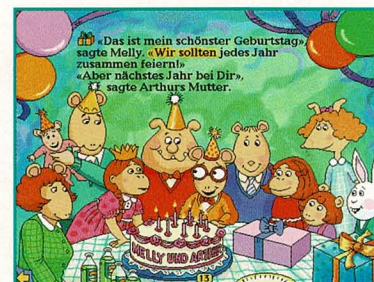
Beautifully presented and animated, but the lack of games and puzzles will diminish the lasting appeal, especially for older children in the target age range.

MF rating 71%

Arthur enlists the help of Francine to hatch his cunning plan and save the day. And where better to plot than in a secret treehouse?



Naturally, no party would be complete without balloons, decorations, toys, games and jokes, and Elwood's Party Suppliers is just the place to pick out the best.



All's well that ends well, but so we don't reveal too much, we've taken advantage of the French and German options on the CD.

WE GUARANTEE TO BEAT ANY OTHER PRICE LISTED!!

GAMEPLAY

PRICE! CHOICE! QUALITY! SERVICE!

THESE HAVE MADE US ONE OF THE LARGEST SUPPLIERS OF COMPUTER SOFTWARE IN THE COUNTRY TODAY!!

ALL PRICES INCLUDE VAT & DELIVERY!!

0113 234 0444
SALES HOTLINES
0113 234 0999
TECHNICAL SUPPORT
0113 234 0666
CUSTOMER SERVICES
0113 234 0770
SALES FAX LINE
email: GameplayUK@AOL.com

MACINTOSH CD ROM GAMES



LUCAS ARTS ARCHIVES - INDIANA JONES FATE OF ATLANTIS, SAM N. MAX, DAY OF THE TENTACLE, REBEL ASSAULT SPECIAL EDITION, LUCAS ARTS DEMO AND SAMPLER DISK
ALL THIS FOR JUST £34.99



DUKE NUKEM 3D & QUAKE
each £24.99!!
Special offer - buy either of the above titles and get £2 off every other item bought at the same time!!

ARCADE ACTION

3D Ultra Pinball	22.99
3D Ultra Pinball 2 Creep Night	24.99
Absolute Zero PPC	24.99
Blackthorn	24.99
Damage Inc.	31.99
Dark Forces	24.99
Doon 2	24.99
Final Doom	24.99
Havoc	24.99
Heaven	18.99
Heaven Death Kings Add-On	24.99
Marathon CD Enhanced	23.99
Marathon 2 Durandal	23.99
Marathon Infinity	23.99
Master Levels of Doom 2 Add-On	24.99
Mechanor 2 PPC	34.99
Prime Target PPC	28.99
Prince of Persia 1 & 2 Collection	12.99
Pro Pinball the Web	17.99
Rebel Assault 2	26.99
Shill Cracker	29.99
Terminal Velocity	21.99
Ultimate Doom 2 The Flesh Consumed	19.99
Worms	22.99
X-Wing Collector's Edition	25.99
ZPC	46.99

RPG & ADVENTURES

9	35.99
Amer Journeys Beyond	35.99
Brain Dead 13	9.99
Broken Sword	26.99
Crystal Skull	26.99
Dark Eye	19.99
Full Throttle	24.99
Gabriel Knight 2 Beast Within	22.99
Hardline	33.99
Indiana Jones Deluxe Top Adventures	38.99
Kings Quest 7	19.99
LightHouse 'NEW'	29.99
Monty Python and the Quest for the Holy Grail	27.99
Mummy Tomb of the Pharaoh	25.99
Myst	24.99
Rain	36.99
Shivers 'NEW'	31.99
SQOR: The Empires Darkest Hour	43.99
Spycraft The Great Game	36.99
Star Trek Borg 'NEW'	29.99
Star Trek Deep Space 9	27.99
Star Trek Klingon	26.99
Star Trek Final Unity	24.99
The Dig	26.99
Titanic	39.99
Torin's Passage	31.99
Under a Killing Moon	24.99
Zork Nemesis	37.99

BOARD & CARD GAMES

Asteri Caesar's Challenge	26.99
Bridge 8.0 3.5	32.99
Chessmaster 4000	36.99
King of Solitaire V1 3.5	19.99
Monopoly	39.99
Scrabble	39.99

COMPILATIONS

GAMES OF FAME VOL 1 - Includes FA-18 Hornet, Pathways into Darkness, Crystal Calibur Pinball and 4 Levels of Marathon 2	21.99
GAMES OF FAME VOL 2 - Includes Loony Labyrinth Pinball, Peggle, Glider Pro	21.99
GAMES OF FAME VOL 3 - Includes Warcraft Orcs & Humans, Marathon & 8 Missions of A10 Attack	33.99
Holmes Book of Games V4	21.99
Holmes Book of Games V5	24.99
LUCAS ARTS ARCHIVES VOL 1 - Includes Day of the Tentacle, Sam N. Max, Indiana Jones Fate of Atlantis, Rebel Assault (Special Edition), and Lucas Arts Sampler Disk	34.99
LUCAS ARTS ARCHIVES VOL 2 - Includes Rebel Assault, Rebel Assault 2, X-Wing, and X-Wing Special Edition and 3 Levels of Dark Forces	46.99
Top Ten Mac Pack - Includes Powermonger, Populous 2, Synoctic, Theme Park, PGA Tour Golf 2, Chuck Yeager's Air Combat, Labyrinth of Time, Power Tower, Eagle Eye, Mysteries in London & Around the World in 80 Days	29.99

SIERRA SPECIAL OFFERS!!

Buy any 2 of the following Sierra products and get £5 off:

Caesar 2	£27.99
Gabriel Knight	£19.99
Gabriel Knight 2	£22.99
Incredible Machine	£19.99
Kings Quest 7	£19.99
Leisure Suit Larry 7	£29.99
LightHouse	£29.99
Lode Runner	£17.99
NASCAR Racing 2	£26.99
Phantasmagoria	£26.99
Shivers	£26.99
Ultimate Pinball 2	£24.99

SALES LINES OPEN:
MON-FRI 9am - 8pm
SATURDAY 10am - 7pm
SUNDAY 10am - 4pm

NO QUIBBLE EXCHANGE POLICY: IF YOU ARE UNHAPPY WITH YOUR PURCHASE FOR ANY REASON, SIMPLY RETURN THE ITEM IN PERFECT CONDITION WITHIN 48 HOURS OF RECEIPT BY RECORDED DELIVERY AND SUBJECT TO A 10% (TWO OR LITTLE MINIMUM £4). WE WILL SWAP FOR ANOTHER ITEM. THIS OFFER APPLIES ONLY TO ITEMS LISTED IN OUR MOST CURRENT ADVERTS. WE RESERVE THE RIGHT TO REFUSE EXCHANGE IF THE ITEMS IS NOT RECEIVED BACK IN PERFECT CONDITION. (SATISFACTION GUARANTEED)

TOP TEN MAC PACK 2 - Includes Wing Commander 3, PGA Tour Golf 3, System Shock, Super Wing Commander, Shockwave Assault, Space Ship Warlock, Wolfpack, Peter Pan, The Jungle Book Reader & Putt Putt & Fatty Bear's Activity Pack **£39.99**

WARGRAFT BATTLECHEST - Includes Wargraft Orcs & Humans and Wargraft 2 Tides of Darkness and Beyond The Dark Portal data disk **£59.99**

ULTIMATE DOOM & HEVEN BUNDLE **£39.95**

MARATHON TRILOGY BOX SET **£49.99**

FLIGHT SIMS

A10 Attack 3.5	29.99
A10 Attack CD Rom	29.99
A10 CUBA MISSIONS AT GUANTANAMO BAY 3.5	29.99
A10 CUBA MISSIONS AT GUANTANAMO BAY CD ROM	29.99
Apache Longbow	25.99
F/A 18 Hornet 3.0	35.99
F/A 18 Hornet Mission Disk - Crisis in Korea 3.5	26.99
F/A 18 Hornet Mission Disk - Crisis in Korea CD Rom	26.99
Flight Unlimited	27.99
Flight Sim 4 - Microsoft	36.99
HIND	28.99
WRENOH! COMANCHE 2.0 (PowerMac only)	33.99
Hornet V2 Bundle	49.99

SPORTS

ACTIA GOLF	29.99
ACTIA Soccer (PowerMac only)	22.99
Al Unser Jr. Arcade Racing (Unboxed)	17.99
Alley 19 Bowling	36.99
IndyCar Racing 2	15.99
Links Pro CD Rom	19.99
Links Pro - 5 Course Library Vol 1	19.99
Links Pro - 5 Course Library Vol 2	19.99
Links Pro - 5 Course Library Vol 3	19.99
Links Pro - 5 Course Libraries Vols 1, 2, and 3	47.99
Links Pro Course - Valhalla	17.99
Links Pro Course - Valderama	17.99
NASCAR Racing PPC	26.99
Virtual Pool	24.99

STRATEGY GAMES

Bedlam	22.99
Caesar II	27.99
Caesar II: The Conquest	24.99
Caesar Overlords	24.99
Command and Conquer	29.99
Conquest of the New World (PPC)	32.99
Connections	34.99
Heroes of Might & Magic 2	27.99
Outpost 1.5	21.99
Over the Reich	38.99
Shanghai 2 Dragon's Eye	17.99
Shanghai Great Moments	31.99
Sin Anti	27.99
Sin City 2000	27.99
Sin City 2000 Collection	27.99
Sin City 2000 Scenarios Vol 1 3.5	9.99
Sin City Classic	9.99
Sin East	9.99
Sin Farm	9.99
Sin Life	29.99
Sin Tower 3.5	19.99
Sin Tower	17.99
Viings	36.95
WARCRAFT BATTLECHEST - Includes Warcraft Orcs & Humans, Warcraft 2 Tides of Darkness and Beyond The Dark Portal Data Disk	59.99
WARCRAFT II Beyond the Dark Portal	13.99
WARCRAFT II Tides of Darkness	29.99
W Zone Warcraft 2 Add on disk	19.99

WAR GAMES

Allied General	21.99
Close Combat PPC	32.99
D Day The Beginning of the End	19.99
Panzer General (Plus Official Strategy Guide)	24.99
Total War	36.99

STAR TREK OMNIPEDIA



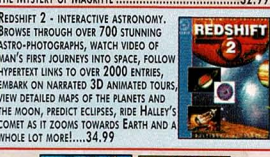
COMPLETE STAR TREK ENCYCLOPEDIA UTILISING VIDEO CLIPS, PHOTOS, SOUND FILES AND TEXT WHICH BRING TO LIFE THREE OF THE TV SERIES AND SIX FILMS. ALSO INCLUDES VOICE ACTIVATION SOFTWARE (REQUIRES POWER MAC OR QUADRA AV AND MICROPHONE FOR VOICE RECOGNITION) 22.99

HOME & REFERENCE

MICROSOFT SPECIAL OFFERS

Microsoft Office 97	£26.99
Microsoft Office 97 - Creative Writer & Time Artist	£43.99
Microsoft Office 97 - Encarta '96	£44.99
Microsoft Office 97 - Music Central '97	£34.99
Microsoft Office 97 - Wine Guide	£26.99

A Brief History of Time	32.99
Art Gallery	33.99
Corel All Movie Guide 98	19.99
Crazy for Rastin	32.99
Kali's Power God	25.99
Land Designer 3D	25.99
Le Louvre	25.99
Lost Treasures	25.99
Microsoft Encarta '96 UK	19.99
Monty Python's Complete Waste of Time	27.99
Oxford English Dictionary (2nd ed)	234.99
Oxford Reference Shelf	37.99
Oxford Study Shelf	17.99
Oxford Writers Shelf	17.99
Peter Gabriel's Eye	33.99
Road 66 (Inc UK & Eire) 3.5	32.99
Sophies World	33.99
Star Trek Omnimedia - Complete Star Trek Encyclopedia Utilising Video Clips, Photos, Sound Files and Text Which Bring to Life 3 of the TV Series and 6 Films. Also Includes Voice Activation Software (Requires Power Mac or Quadra AV and Microphone for Voice Recognition)	22.99
The Mystery of Magritte	32.99



REDSHIFT 2 - INTERACTIVE ASTRONOMY. BROWSE THROUGH OVER 700 STUNNING ASTRO-PHOTOGRAPHS, WATCH VIDEO OF MAN'S FIRST JOURNIES INTO SPACE, FOLLOW HYPERTEXT LINKS TO OVER 2000 ENTRIES, ENHANCE ON NARRATED 3D ANIMATED TOURS, VIEW DETAILED MAPS OF THE PLANETS AND THE MOON, PREDICT ECLIPSES, RIDE HALLEY'S COMET AS IT ZOOMS TOWARDS EARTH AND A WHOLE LOT MORE!... **£34.99**



DOGS & CATS LIVE ON YOUR COMPUTER'S DESKTOP WHERE THEY CAN EAT, SLEEP, PLAY GAMES AND RUN AROUND. BORN AS PUPPETS AND KITTENS THEY DEVELOP A UNIQUE LOOK AND PERSONALITY. EACH **£15.99**

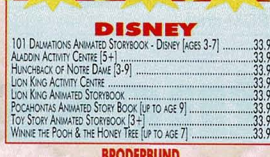
DORLING KINDERSLEY

Chronicle 2	£27.99
The Oxford Children's Dictionary	£22.99
Space and the Universe	£27.99

Castle Explorer	21.99
Children's Omnimedia Dictionary [8-12]	21.99
Chronicle of the 20th Century	27.99
Encyclopedia of Space & Universe	27.99
Eyewitness Encyclopedia of Nature	26.99
Eyewitness Encyclopedia of Science 2.0	27.99
Eyewitness Photo Gallery: Birds	9.99
Eyewitness Photo Gallery: Cats	9.99
Eyewitness Photo Gallery: Children	9.99
Eyewitness Photo Gallery: Classic Cars	9.99
Eyewitness Photo Gallery: Dinosaurs	9.99
Eyewitness Photo Gallery: Flowers	9.99
Eyewitness Photo Gallery: Insects & Beetles	9.99
Eyewitness Photo Gallery: Wild Animals	9.99
Eyewitness Virtual Reality Bird	21.99
Eyewitness Virtual Reality Cat	21.99
History of the World	28.99
My First Amazing World Explorer Activity Pack [4-9]	21.99
My First Incredible Amazing Dictionary & Activity Pack	21.99
PB Bear's Birthday Party [3+]	20.99
Stowaway	19.99
Ultimate 3D Skeleton	21.99
Ultimate Human Body 2.0 [10+]	27.99
Virtual Reality Dinosaur Hunter	21.99
Way Things Work 2.0 [8+]	27.99

CHILDREN & EDUCATION

Activity Centre	£33.99
Health Stories	£33.99
Knowledge Explorer	£33.99



DISNEY
101 Dalmatians Animated Storybook - Disney (Ages 3-7) **£39.99**
Aldwin Activity Centre [5+] **£39.99**
Hunchback of Notre Dame [3-9] **£39.99**
Lion King Activity Centre **£39.99**
Lion King Animated Storybook **£39.99**
Dick Whittington Animated Story Book (Up to Age 9) **£39.99**
Toy Story Animated Storybook [3+] **£39.99**
Winnie the Pooh & the Honey Tree (Up to Age 7) **£39.99**

BRODERBUND

ABC	£22.99
Dr. Seuss	£23.99
London	£24.99

Arthur's Birthday Surprise [6-10]	22.99
Arthur's Teacher Trouble [3-7] (US)	27.99
Arthur's Teacher Trouble [6-10]	22.99
Berenstein Bears Get In a Fight [3-8]	22.99
Berenstein Bears in the Dark [3-8] (US)	27.99
Dr. Seuss ABC [3-7]	22.99
Dr. Seuss Green Eggs and Ham [3-7]	23.99
Harry and the Haunted House [3-8]	23.99
Just Grandma and me [3-8]	23.99
Little Monster at School [3-8]	23.99
Literal Journey of the ZOOBINIS	24.99
Maths Workshop	23.99
New Kid on the Block [6-12]	22.99
Ruffs Bone [3-8]	22.99
Sheila Rae the Brave [3-7]	23.99
Stellaluna [3-7]	23.99
Tortoise and the Hare [3-8]	23.99

ANGLIA MULTIMEDIA

Explora	£19.99
Eureka!	£19.99
Explora	£22.99

ALL ANGLIA'S 'EXPLORING' RANGE ARE ALIGNED DIRECTLY TO THE NATIONAL CURRICULUM

BUNNY BILLS GHOST CAVE [3-10] **£13.99**
EUREKA! [9-ADULT] **£19.99**
Exploring Geography **£22.99**
Exploring History **£22.99**
Exploring Wildlife **£22.99**
Exploring Science **£19.99**
Exploring Reading 1 **£19.99**
Exploring Reading 2 **£19.99**
JOHN HEGGECODES GUIDE TO PHOTOGRAPHY + FREE BOOK £22.99

IONA

Amazing Maths 8 - 12	13.99
Ballets Book House 2 - 6	13.99
Kid Desk 3 - 10	13.99
Mighty Maths Carnival Countdown 4 - 8	19.99
Muppet Maths Number Heroes 8 - 12	19.99
Muppets Beginning to Read 3 - 7	13.99
Muppets Read Listen and Learn 3 - 7	13.99
Sunny's Science House 2 - 10	13.99
Stanley's Sticker Stories 3 - 7	13.99
Stanley's Sticker Stories 4 - 8	13.99
Thinkin' Things 2, 6 - 12	13.99
Thinkin' Things 308 - 12	13.99
Trudy's Time and Place House 3 - 8	13.99

INTERACTIVE STORYBOOKS

DRAGONS	23.99
Gregory and the Hot Air Balloon	17.99
Henry's Party - The Farm Yard	17.99
Liam Finds a Story	26.99
Magic Tales Baba Yaga and the Magic Geese	24.99
Magic Tales Ivo and the King	24.99
The Fish Who Could Wish	17.99
Winnie the Witch	17.99

OTHERS

CLASPER'S BRAIN BOOK	17.99
CLASPER'S BRAIN BOOK	17.99
JUMP AHEAD - DISCOVERY TREE	25.99
JUMP AHEAD - PRE-SCHOOL	25.99
JUMP AHEAD - STARTING SCHOOL	25.99
JUMP AHEAD - TODDLERS	19.99
JUMP AHEAD - YEARS 1	25.99
JUMP AHEAD - YEARS 2	25.99
MAGIC SCHOOL BUS EXPLORES HUMAN BODY	25.99
MAGIC SCHOOL BUS EXPLORES OCEAN	25.99
MARTY AND TROUBLE WITH CHEESE / WHERE IS MORGAN	24.99
POWER TO THE LITTLE PEOPLE	25.99
SIN PARK NEW	25.99
SIN TOWN	17.99
THE WARE OF DR. BRAIN	23.99

DTP & GRAPHICS

Corel Draw 6 Suite Full Product	£292.99
Corel Gallery	22.99
Corel Gallery 2	29.99
Corel Mega Gallery 110,000	44.99
Corel PrintHouse	22.99
Corel Word Perfect Suite Upgrade	69.99
Corel Word Perfect Suite Full Product	137.99
ADOBE ACRBAT V3	174.99
ADOBE COLLECTION (PHOTOSHOP 4, ILLUSTRATOR 6, DIMENSIONS 2, & SCREADY)	584.99
ADOBE DIMENSIONS V2 3.5	119.99
ADOBE ILLUSTRATOR V6	329.99
ADOBE PHOTO DELUXE V1	81.99
ADOBE PHOTOSHOP V4	444.99
ADOBE PUBLISHING COLLECTION 1.0 - INCLUDES PAGEMAKER, PHOTOSHOP, ILLUSTRATOR & ACRBAT	999.99

Corel Draw 6 Suite Full Product	£292.99
Corel Gallery	22.99
Corel Gallery 2	29.99
Corel Mega Gallery 110,000	44.99
Corel PrintHouse	22.99
Corel Word Perfect Suite Upgrade	69.99
Corel Word Perfect Suite Full Product	137.99
ADOBE ACRBAT V3	174.99
ADOBE COLLECTION (PHOTOSHOP 4, ILLUSTRATOR 6, DIMENSIONS 2, & SCREADY)	584.99
ADOBE DIMENSIONS V2 3.5	119.99
ADOBE ILLUSTRATOR V6	329.99
ADOBE PHOTO DELUXE V1	81.99
ADOBE PHOTOSHOP V4	444.99
ADOBE PUBLISHING COLLECTION 1.0 - INCLUDES PAGEMAKER, PHOTOSHOP, ILLUSTRATOR & ACRBAT	999.99

LANGUAGE

TRANSPARENT LANGUAGE FRENCH NOW	69.99
TRANSPARENT LANGUAGE GERMAN NOW	69.99
TRANSPARENT LANGUAGE ITALIAN NOW	69.99
TRANSPARENT LANGUAGE LATIN NOW	69.99
TRANSPARENT LANGUAGE RUSSIAN NOW	69.99
TRANSPARENT LANGUAGE SPANISH NOW	69.99
TALK NOW: LEARN FRENCH	27.99
TALK NOW: LEARN GERMAN	27.99
TALK NOW: LEARN GREEK	27.99
TALK NOW: LEARN IRISH	27.99
TALK NOW: LEARN ITALIAN	27.99
TALK NOW: LEARN JAPANESE	27.99
TALK NOW: LEARN NORWEGIAN	27.99
TALK NOW: LEARN RUSSIAN	27.99
TALK NOW: LEARN SPANISH	27.99

JOYSTICKS & WHEELS

Gravis Firebird	£52.99
Gravis Firebird Joystick	72.99
Gravis GamePad	26.99
Gravis MouseStick II	41.99
Assorted Mouse Mats - call for designs, each	£1.99



MICROSOFT SIDEWINDER PRO JOYSTICK
ONLY.....**£58.99**

THRUSTMASTER PRODUCTS

THRUSTMASTER T2 STEERING ASSEMBLY
COMES WITH STEERING WHEEL, GEARSTICK, PEDALS & PROGRAMMABLE BUTTONS. RRP £199.99
OUR PRICE £144.99

SPECIAL Offer - Buy a T2 STEERING WHEEL & get NASCAR 2 for just £24.99.

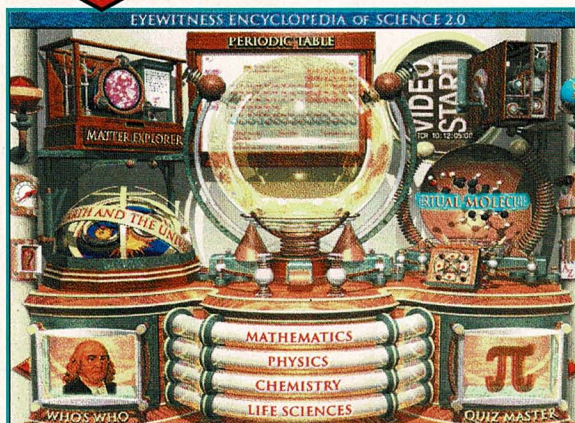
RCS RUDDER CONTROL	£104.99
THRUSTMASTER Mk1 FLIGHT CONTROL SYSTEM FCS1	£99.99
THRUSTMASTER PROFESSIONAL FLIGHT SYSTEM - INCLUDES Mk1 FLIGHT CONTROL SYSTEM, Mk1 WEAPONS CONTROL SYSTEM & RCS RUDDER CONTROL..... ALL FOR JUST £269.99	
TOP GUN OFFICIAL JOYSTICK 4 WAY HAT SWITCH, WEIGHTED BASE, 3 BEVELED BUTTONS, QUICK ACTION TRIGGER AND THRUSTMASTER QUALITY AND DURABILITY ALL FOR ONLY £39.99	



PRICE £39.99	ON SALE Now	CONTACT Dorling Kindersley on 0171 753 3488	WEB SITE http://www.dk.com/
MAC Processor: 68LC040 • RAM: 6Mb	POWERMAC Processor: any • RAM: 6Mb	REQUIRES System: 7.0 • HD space: 25Mb • Screen: 640 x 480 •	
Colours: 256 • Extras: 2x speed CD-ROM drive			

Eyewitness Encyclopedia of Science 2.0

MACFORMAT
Classic



Welcome to the lair of the mad scientist. It's worth poking around to see what you can find, but be careful what you touch!

A butterfly flaps its wings and across the universe particles collide in a chaos-induced hurricane. There's a lot more to science than meets the eye...

Chemistry smells. Think back to your school days and what is your overriding memory of chemistry lessons? The stink of the lab, the grubby fume cupboards and the nervous teacher peering through the reinforced glass of the prep room window. Biology was disgusting, and as for maths and physics, well, the sooner those are forgotten, the better.

That said, how can a mere CD-ROM – a disc of plastic – capture that sense of experimentation, exploration and learning from your (often smouldering) mistakes? Well, in the case of this second incarnation of the *Eyewitness Encyclopedia*

of Science from Dorling Kindersley, the answer is very well indeed.

You start your journey in the lab of an extremely mad scientist – a beautifully illustrated Aladdin's cave of scientific equipment. From here you can access all areas of *Encyclopedia* – the main sections of Mathematics, Physics, Chemistry and Life Sciences, as well as a Who's Who, Space and the Universe, a quiz, the Matter Explorer and Virtual Molecules. Here you'll also find excellent search, navigation and help functions. From this point on, the world of science is yours – every fact you can imagine lies just a mouse-click away.

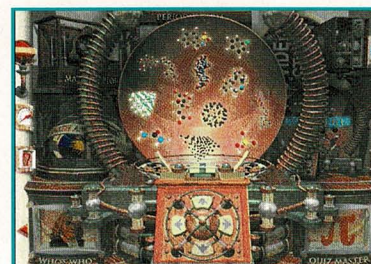
And there are a lot of facts. A click on Biology reveals a molecular substructure, dividing the subject into smaller sections. A click on one of these sections reveals between four and ten further divisions, and a click on one of these divisions takes you to a brief overview of the subject – a single page, sometimes with an animation or a movie to illustrate a point. Scattered throughout these pages are keywords, as well as a "Find out more" box and a "See also" pointer. You don't have to worry about finding more specific information – it finds you.

One minor drawback of this system is that when you click on another article, the CD-ROM takes you all the way back through the chain of articles you already have open, and then opens all the necessary pages to get to where you're going, rather than just having the individual article appear on screen. This is time consuming, and will have you tapping impatiently on your desk.

Once you get to it, though, the quality of the information contained within *Encyclopedia of Science* is superb. Ranging from simplistic opening pages about chemical reactions, to the complexities of the quarks and gluons of particle physics, there's something here for all students. Your 11-year-old will gain a wider view



The lives of the people who shook the world are all available for you to study.



The Virtual Molecules section enables you to take an in-depth look at some of the most basic units of matter.

of the scientific world, as you guide them through the opening pages of a great many of the sections, while your 17-year-old will find well-designed explanations of the problems they're facing at A-level. All the way through, this is supported by voice-overs and straightforward language that avoids blinding you with science.

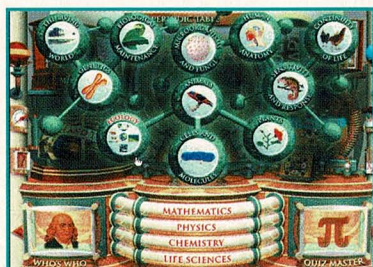
At this point, however, you may start to feel uneasy. You've been searching through the *Encyclopedia*, and something is not as it should be. You can't put your finger on it, but a trip to the Physics section puts you right. You go through "Light" and there it is... "Colour"... spelt with a "u". You have inadvertently stumbled on an English CD!

It's not all dry science, either – the Matter Explorer and Virtual Molecules give you a close-up look at the objects that form the world around you, while the extensive, customisable quiz tests the knowledge you've picked up. All in all, this CD gives you a great deal for your cash – buy it for your kids. It might not provide all of their scientific education, but the facts it does enlighten them with will give their teachers a good run for their money...

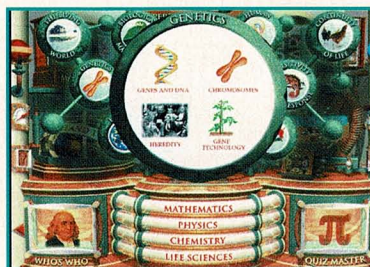
EMMA PARKINSON

There's more!

Did you know that viruses are on the borderline between living and non-living things? They are not true cells, but simply genetic material surrounded by a protein coat.



Click on the Life Sciences bar and the subject is divided into more precise areas for you to explore...



... Click again, and the fields become even more specific. Click yet again for a brief overview of a particular topic.

Encyclopedia of Science 2.0

A comprehensive trip through the world of science, which provides you with easily accessible information. Excellent.

MF rating 90%



PRICE £39.99	ON SALE Now	CONTACT Dorling Kindersley on 0171 836 5411	WEB SITE http://www.dk.com/
MAC Processor: 68LC040 • RAM: 12Mb	POWERMAC Processor: any • RAM: 12Mb	REQUIRES System: 7.0 • HD space: 32Mb (recommended)	
Screen: 640 x 480 • Colours: 256 (thousands preferred) • Extras: 2x speed CD-ROM drive			

Chronicle of the 20th Century

Remember Live Aid? The Falklands war? Still know where you were when Kennedy bit the big one? Then this CD-ROM's the one for you. Hold the front page!

The city crime desk was a quiet place to be on a Sunday morning, and it was hours since the phone had rung to bring me a juicy story. Time hung heavy on my hands, and it was looking like Monday's front page was going to be nothin' but politics. What about shoot-outs, freeway robberies, hold-ups and hostage crises? Jeez, was the whole of The Big Apple asleep? So, there I was, stuck in the dusty old offices of The Chronicle, with nothing to do but wait for the news to break.

The Chronicle was a big old office that never suffered from the kind of modernisation you saw at the Daily Planet, but the records go back years. And the staff never threw anything away – you'd be amazed at what you'd find in the cupboards...

And there you are. Dorling Kindersley's *Chronicle of the 20th Century* transports you to the offices of The Chronicle newspaper – your interface and your gateway to the history of the 20th century. From here you can explore a timeline of world events, starting on 1 January 1900. And the newspaper metaphor doesn't end there. The backbone of *Chronicle* is page after page of simulated newsprint; there are three or four entries for every month until July 1996. Each page has a headline article, a selection of minor stories and a

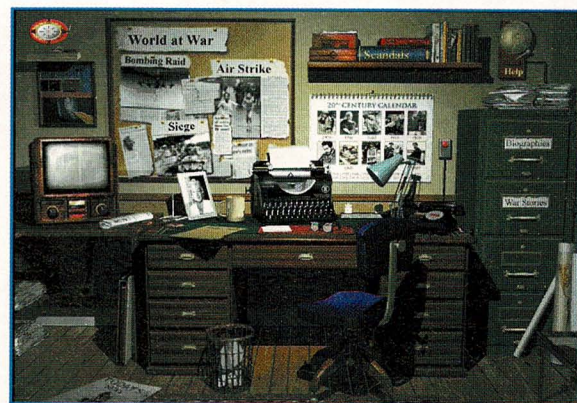
"News in brief" section that lists an event for every day of that specific month. This material is always backed up by a headline picture, and sometimes a movie or supplementary soundtrack to give you even more of a feel for the period.

Coupled with this are single page biographies of the top movers and shakers of this century. They're mainly American, but with a fair smattering of some of the world's greatest non-US citizens. It's an eclectic mix: from Marilyn to Madonna, with Nelson Mandela nestling uncomfortably between Malcolm X and Mao Tse Tung.

As well as the biographies is "The 20th Century in Focus", which

provides greater background information for eight in-depth studies. These show an unhealthy preoccupation with the trials and tribulations of the Communists, including "The Russian Revolution", "Europe of the Dictators" and "The Fall of Communism". This section also examines the First and Second World Wars and the mess that was Vietnam (remember, this is American).

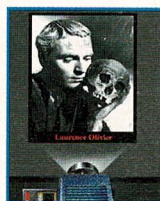
These overviews include timelines, illustrations of the characters involved and the histories that led to the struggles. There are also some chilling movie



The old-fashioned offices of *The Chronicle* are where you start your search through the newspaper headlines of the last 96 years.

scenes and background music to go with the studies – not gory, but evoking a sense of the hardship and the tragedy of the times.

And this is where *Chronicle of the 20th Century* falls down. All it does is provide you with a sense of these events. It captures the spirit of the time, yet fails to provide you with any detail. The typical lead article on each page is around 200 words and leaves a lot unexplained. What was the Boer war all about? Where is Western Bohemia? What's Chartism? Indeed, *Chronicle* threatens to pose more questions than it can provide answers to, and it doesn't give you the depth necessary to be used as a research tool. You could easily find yourself involved in a frenzy of CD swapping as you hop from *Chronicle* to *Encarta* and back again.



Sir Larry at his best: "I say, old boy, don't you find it a touch chilly?"

This CD purports to be a chronicle of the 20th century, but the century isn't even over yet. However, if you have a modem and an Internet account, you can update your *Chronicle* daily (see below). Without Internet access, though, the *Chronicle of the 20th Century* comes to an end on 19 July 1996 with the TWA air crash outside New York, leaving you three-and-a-half years – around 1,277 days – to speculate about.

Stop the presses. **EMMA PARKINSON**

The Chronicle of the 20th Century

An "Oh yes, I remember that" look at the last 96 years.

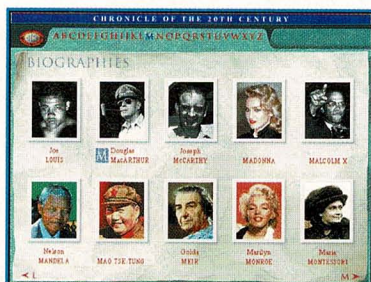
MF rating 76%

Chronicle On-line

With every *Chronicle of the 20th Century* purchase, you gain access to Dorling Kindersley's exclusive Chronicle On-line site. Here you'll find daily headlines to bring your existing *Chronicle* right up to the present day. Detailed accounts of random past events provide unique insights beyond the original CD-ROM material and there are also opportunities to win even more DK software.



The overview of Vietnam is factually packed and chilling.



The biographies section of *Chronicle* is biased toward American politics but it's still well worth a visit.



Relive your youth with scenes like this one from Live Aid. Shame it's attributed to the Americans, though...

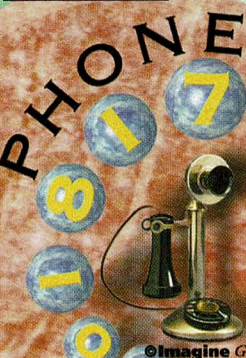
EMERALD

HOW TO ORDER
PHONE
0181-715-8866
FAX
0181-715-8877
E-MAIL
100101.1027@compuserve.com
or WRITE TO:
EMERALD

DUKE NUKEM 3D + QUAKE
WE DAREN'T PRINT THE PRICE OF THIS OFFER... IT'S SO SPECIAL - CALL!!!

REMEMBER ALL EMERALD PRICES INCLUDE 17.5% VAT! REMEMBER WE WILL MATCH ANY PRICE!

TERMS AND CONDITIONS
When ordering, please don't forget to include complete charges within the UK are £2.50 per item for first class UK Post. Next-day courier service is available within the UK mainland and is subject to availability at a cost of £5.00 regardless of order size.
Please ask for Overseas Delivery Charges and pricing for Scottish Highlands and Islands.
You can pay by:
Credit Card: We only bill your card when we dispatch the order... NOT BEFORE!
Cheque: Please make cheques payable to 'Emerald Creative Technology Limited'.
All pricing includes VAT but not carriage. We reserve the right to change prices - you will be informed of any change when you order. Faulty goods will be replaced or repaired if returned within 30 days of purchase. We will refund if we can't repair the goods. It is the responsibility of the customer to check for compatibility of a particular product with existing equipment before buying. Postage will not be refunded on goods that are returned. E&OE
TRADEMARKS/COPYRIGHTS ARE RECOGNISED



LANGUAGES

SPECIAL: Buy Learn to Speak French with Asterix for only £18.95 and get Learn to Speak English with Asterix in 18 different languages, FREE - but only whilst stocks last!

VOCABULARY & PRONUNCIATION TUTORIALS

Vocabulary Builder German £19.95
Vocabulary Builder Spanish £19.95
Vocabulary Builder French £19.95

FULL COURSES (beginner to A-Level & Business)

Learn To Speak English £69.95
Learn To Speak French £69.95
Learn To Speak German £69.95
Learn To Speak Spanish £69.95
Think & Talk French £49.95
Think & Talk German £49.95
Think & Talk Spanish £49.95

REFERENCE

Please also see the Microsoft and Dorling Kindersley categories below...

3D Atlas £29.95
Ancient Egyptians £Call
Critical Mass £34.95
Ency. of Discoveries + Inventions £Call
Exploring Castles £Call
Garden Wildlife £42.95
Grollier 1997 £29.95
Ency. of Science Fiction £Call
Learn the Art of Magic £Call
Nelson and His Navy £Call
Encarta 97 £41.95
Oxford Concise English Dictionary £49.95
Oxford Reference Shelf £36.95
Oxford Science Shelf £16.95
Oxford Language Shelf £16.95
Oxford Thesaurus £16.95
Romans £Call
SeaShore Life £Call
Vikings £Call
Volcanoes £34.95
World's Weather £Call

THINKING, THE SCIENCES, ART AND THE HUMAN BODY

Thinkin' Things 4-8 £12.95
Thinkin' Things 2, 6-12 £12.95
Thinkin' Things 3, 8-16 £12.95
Treasure Mountain age 5-9 £29.95
Sammy's Science House 2-10 £12.95
A Brief History of Time £39.95
Fun School Young Scientist £21.95
Mr Wonder's Greatest Toyshop 4-9 £24.95
Carmen San Diego Jr Detective £19.95
Prof. Tim's Incredible Machine V3 £29.95
Widget Workshop 8+ £25.95
The Lost Mind of Dr. Brain 11-100 £23.95
1000's of Brain Busting Puzzles - Adventure! £29.95
Time Warp of Dr. Brain 11-100 £23.95
Encyclopaedia of Space and the Universe by DK £27.95
Red Shift 2 CD £32.95
Science Blast Jr. age 4-7 £29.95
Solar System Explorer £34.95

ART AND ART COLLECTIONS

A Passion For Art £37.95
Microsoft Art Gallery £34.95
Ages of Flemish & Dutch Art £34.95
ArtRageous £29.95
Bellini-the 'Feast of the Gods' £34.95
Cezanne £24.95
Le Louvre £34.95
Leonardo The Inventor £34.95
Magritte £34.95
Monet, Verlaire, Debussy £19.95
Museum d'Orsay £34.95
Picasso £34.95
Rings-Five Passions in World Art £34.95
Stroll Through 20th Century Art £34.95
Vermeer £34.95

BODY & HEALTH

Adam 9 Month Miracle £34.95
Adams Inside Story 1997 version £34.95
Anne Hooper's Sex Guide DK £24.95
Bodyworks 5 £34.95
Ultimate 3D Skeleton £23.95
Ultimate Human Body £23.95

MICROSOFT

Ancient Lands £25.95
Art Gallery £34.95
Cinematica '97 £25.95
Cinematica '94 £4.95
Complete Speller V6 £69.95
Creative Writer & Fine Artist pack £45.95
Dangerous Creatures £25.95
Dinosaurs £25.95
Encarta '97 £47.95
Magic Bus - Human Body £25.95
Music Central '97 £25.95
Musical Instruments £25.95
Ultimate Haunted House £25.95
The Wine Guide £10.00

NEW KIDS STUFF!!!

Great Green Mouse Disaster 5-11 £19.95
Henry's Party - The Farmyard 3-7 £19.95
How Animals Move £19.95
Lost Treasures of the World £29.95
Romeo and Juliet £12.95
Fuzzy and Floppy £24.95
Amazon Trail £24.95
Oregon Trail £24.95
Key Cad Complete £29.95

DORLING KINDERSLEY

3D Skeleton £21.95
NEW... Amazing Animals £29.95
Castle Explorer £21.95
Children's Multimedia Dictionary £21.95
Chronicle of the 20th Century £27.95
Cross Section Slowaway £21.95
Dinosaur Hunter £21.95
NEW... Earth Quest £21.95
Encyclopaedia of Nature £17.95
Encyclopaedia of Science £20.95
Encyclopaedia of Space/Universe £27.95
History of World £27.95
My First Incredible Dictionary £21.95
PB Bear's Birthday £19.95
The Way Things Work v2 £27.95
Ultimate Human Body v2 £27.95
Ultimate Sex Guide £27.95
World Explorer £21.95
World Reference Atlas £34.95
Photo Gallery Birds/Wild Animals/Cats/Kids £7.95

READING

INTERACTIVE BOOKS

Bailey's Book House 2-6 £12.95
Children's Bible Stories £29.95
Story Book Weaver Deluxe 2-10 £16.95
Arthur's Birthday 6-12 £24.95
Berenstein Bears Get in a Fight 3-12 £21.95
Christmas Story £19.95
Dr Seuss' ABC 3-8 £24.95
Darby the Dragon £17.95
Jungle Book £14.95
Freddie Fish 3-8 £29.95
Fish Who Could Wish £21.95
Green Eggs and Ham-Dr Seuss £24.95
Gregory and The Hot Air Balloon £17.95
Harry's Haunted House 3-8 £24.95
Just Grandma & Me 3-8 £24.95
Little Monster At School 3-8 £24.95
Little Turtle age 3-7 £24.95
Marty & the Trouble with Cheese £17.95
New Kid in the Block 6-10 £14.95
PB Bear's Birthday 3-6 £19.95
Pat's Alphabet Journey 3-8 £12.95
Ruff's Bone 3-8 £17.95
Sheila Rae, the Brave £24.95
Stellaluna age 3-8 £24.95
The Little Engine 3-8 £24.95
Tortoise and The Hare 3-8 £24.95

FISHER PRICE

Read and Play Library age 4-7 £29.95
Ready for Pre-School age 3-4 £29.95
Sing Alongs age 3-6 £29.95

SPELLING & GRAMMAR

Grammar Games 10-adult £34.95
Kid Phonics No1 4-7 £29.95
Kid Phonics No2 6-9 £29.95
Muppets Read, Listen, Learn 3-7 £16.95
Reading Blast 6-9 £29.95
Reading, Writing and Type age 3-7 £29.95
Sesame Street Words 3-6 £29.95
Spell-it 3-8 £29.95
Word Munchers Deluxe £29.95
Word Attack 3 age 9-adult £29.95

MATHS

Adiboo 4-5 years £24.95
Adiboo 6-7 years £24.95
Amazing Maths age 8-12 £17.95
Cuckoo Zoo £14.95
Mighty Math - Carnival age 4-8 £24.95
Mighty Math - Number Heroes 8-12 £24.95
Miller's Maths House £16.95
Alge Blast 3 14-Adult £24.95
Cruncher Spreadsheet 10-Adult £29.95
Geometry Blast 10-adult £24.95
Logical Journey of the Zombinies £28.95
Math Blast in Search of Spot 6-12 £29.95
Maths Blast Junior 4-7 £24.95
Maths Blast Mystery 10-Adult £24.95
Maths Munchers Deluxe £24.95
Math Workshop 6-10 £31.95
Peter's Number Adventure £12.95
Sesame Street Numbers 3-6 £29.95
Supersolvers Op. Neptune 9-14 £29.95
Treasure Galaxy 6-8 £29.95

GENERAL EDUCATION

Jump Ahead Discovery Tree £24.95
Jump Ahead PreSchool £24.95
Jump Ahead Starting School £24.95
Jump Ahead Toddlers £24.95
Revise GCSE Mathematics £16.95
also available in the Acacia Revise series: Physics, Chemistry, and Biology
Mortimer, Riddles of the Medallion £Call
Muppet's Treasure Island £34.95
SIM Town 8-12 £26.95
Treasure Hunt 4-9 £24.95
Tuneland 3-6 £18.95

DRAW, PAINT & ANIMATE

Amazing Animations £24.95
Stanley's Sticker Stories £16.95
Kid Pix 12-12 £28.95
Kid Pix Studio £33.95
Kid Words Deluxe £29.95
Multimedia Workshop 10-Adult £59.95
Batman Cartoon Maker £19.95
Peter's Colour's Adventures 3-8 £12.95
Print Shop Deluxe Ensemble £34.95
Simpson's Cartoon Maker £29.95

ACTION GAMES

Abuse £34.95
Arcade America £29.95
Battle Beast £33.95
Blackthorn £28.95
Bloodbath at Red Falls £34.95
Buried in Time £32.95
Capitalism £34.95
Chaos Overlords £29.95
Congo £34.95
Dark Forces £24.95
Descent £9.95
Descent: Levels of the World £39.95
(for use with Descent 1 game)
Descent 2 £29.95
Doom II £24.95
Ultimate Doom £18.95
NEW... Final Doom £29.95
D-Zone... 1000 Levels for Doom! £19.95
Gearheads £17.95
HAVOC £29.95
Marathon 1 £19.95
Marathon 2 £19.95
Marathon Infinity £29.95
Marathon Trilogy £Call
Mech Warrior 2 £39.95
Prime Target £29.95
Rebel Assault 2 £29.95
Shivers £29.95
Space Quest 6 LIMITED OFFER £9.95
Under a Killing Moon £24.95
WORMS £23.95
X-Wing Collector's CD £29.95
Zone Raiders £29.95

ADVENTURE GAMES

9' £34.95
After Life £29.95
Alone in the Dark Trilogy £39.95
Amber Journey's Beyond £31.95
Bedlam (Mayhem) £25.95
Broken Sword £29.95
Conquest of the New World £34.95
Dark Seed 2 £29.95
The Dark Eye £25.95
The Dig £25.95
Discworld £36.95
Discworld 2 £Call
Dust £24.95
Elk Moon Murder £24.95
Frankenstein £27.95
Full Throttle (Special Edition & Hints/Tips) £24.95
Gabriel Knight 2 £29.95
Hardline £29.95
Heroes of Might & Magic V2 £29.95
HEXEN (extra levels? see below) £29.95
Death Kings of Dark Citadel £19.95
In The First Degree £29.95
Kingdom of Magic £Call
Kingdom - The Far Reaches £14.95
King's Quest 7 £29.95
L'Affaire Morlov £24.95
Leisure Suit Larry 7 £24.95
Lighthouse £Call
Lost Adventures 8 Classics Pack £34.95
Lost Eden £19.95
Monty Python's Complete Works £29.95
Monty Python's Quest Holy Grail £29.95
Mummy - Tomb of the Pharaoh £29.95
Myst £9.95
Obsidian £Call
Phantasmagoria £29.95
QIN Tomb Middle Kingdom £Call
RAMA £Call
Safecracker £Call
Secrets of the Luxor £29.95
Shadow Wraith £31.95
Shadows of the Past £29.95
Space Quest 6 £9.95
Spycraft £Call
Titanic £39.95
Timeclipse £44.95
Torin's Passage £29.95
Wing Commander 4 £14.95
Wizardry Gold £36.95

DISNEY

Aladdin Activity Centre £32.95
Lion King Activity Centre £32.95
Winnie the Pooh Storybook £32.95
Lion King Storybook £32.95
Pocahontas Storybook £32.95
Toy Story £32.95
101 Dalmations £32.95
Hunchback of Notre Dame £32.95

PUZZLE, BOARD & CARD GAMES

Bridge V8 £31.95
Crossword Wizard £24.95
Chessmaster 4000 £35.95
Deluxe Casino Pack - Poker etc £34.95
Hoyles Games £32.95
Kings of Solitaire £9.95
Monopoly £34.95
Scrabble Deluxe 'Official Version' £9.95
Shanghai 2 CD £14.95

JOYSTICKS & GAMEPADS

Microsoft Sidewinder 3D Pro £64.95
Gravis GamePad £25.95
Gravis Mousestick 2 £41.95
Gravis Blackhawk Joystick £51.95
Gravis Firebird Joystick £79.95
CH Gamepad (the best) £34.95
CH Fightstick Pro Joystick £79.95
CH F-16 Fightstick £Call
CH Pedals £Call
CH Pro Pedals £Call
NEW... Flight Force Joystick £36.95
Trustmaster RCS Rudder Control £102.00
Trustmaster Flight Control System £98.00
Trustmaster Weapons Control Sys £68.00
Trustmaster T2 Steering Assembly £144.00

SIMS

FLIGHT SIMS...
Apache Longbow £29.95
A10 Cuba Mission: Guantanamo Bay £29.95
A10 Attack with Free Mission Editor £29.95
Comanche £29.95
F/A-18 Hornet V2.01 £29.95
F/A-18 Hornet V3 PowerPC only £39.95
F/A-18 Korean Crisis Mission Disk £24.95
Flight Unlimited £34.95
Hind Helicopter SIM £29.95
Microsoft Flight Sim 4 £36.95
Starfighter 3000 £29.95
Tie Fighter Collection £Call
OTHER SIMS...
3D Ultra Pinball £24.95
3D Ultra Pinball 2 - Creep Night! £29.95
Capitalism £34.95
Caesar 2 £28.95
Colonization £19.95
NEW... G-Nelix £34.95
Outpost £27.95
Pro Pinball: NEW VERSION £24.95
Sim City £8.95
Sim City 2000 £26.95
Sim City Collection £34.95
Sim Ant £8.95
Sim Earth £8.95
Sim Farm £8.95
Sim Tower £19.95
Sim Town £19.95

SPORTS

Actua Soccer £22.95
Alley 19 Bowling £34.95
EuroManager '97 £29.95
Indy Car 2 £14.95
NASCAR Racing £24.95
Links Pro Golf £29.95
Links Pro Course Vol 1, 2 or 3 £18.95
PGA Tour Golf 3 See Top Ten Pack Vol. 2 £29.95
Trophy Bass Fishing £24.95
Virtual Pool £18.95
Zone Raider £34.95

WAR GAMES

Allied General £24.95
Panzer General £24.95
Castles 2 £24.95
Close Combat £31.95
Command and Conquer £26.95
Legions 2 £25.95
Total War CD Compilation £34.95
Warlords II £34.95
Warcraft See Games of Fame Vol. 3 £29.95
Warcraft 2 Expansion set £14.95
Warcraft Battle Chest £57.95

COMPILATION PACKS

TOP TEN MAC PACK - 10CDs - Vol. 1
Populous 2, Powermancer, Syndicate, PGA Tour Golf 2, Theme Park, Around the World in 80 Days, Eagle Eye Mysteries in London, Chuck Yeager's Air Combat, Powerpoker and The Labyrinth of Time. £27.95

TOP TEN MAC PACK - 10CDs - Vol. 2
Wing Commander 3, PGA Tour Golf 3, System Shock, Wolfpack, Peter Pan, Spacehawk, Super Wing Commander, Rudyard Kipling's 'The Jungle Book', Shockwave Assault, Putt-Putt & Fatty Bear Activity Pack. £29.95

LUCAS ARTS ARCHIVES - 6CDs - Vol. 1
Day of the Tentacle, Rebel Assault, Indiana Jones & the Fate of Atlantis, Dark Forces Special Edition (3 levels), Sam & Max Hit the Road, Lucas Arts Sampler. £32.95

LUCAS ARTS ARCHIVES - Vol. 2
Rebel Assault 1, Rebel Assault 2, X-Wing Collectors, 3 Levels of Dark Forces, Making Magic - making of the film Trilogy. £45.95

GAMES OF FAME - VOL. 1

FA18 Hornet Classic: Pathways into Darkness and Crystal Calibur Pinball, as well as 4 level preview of Marathon2 £19.95

GAMES OF FAME - Vol. 2

Loony Labyrinth Pinball, Pegleg, Glider Pro plus a game edition of Eric's Ultimate Solitaire £19.95

GAMES OF FAME - Vol. 3

Marathon, A-10 Attack LE, Warcraft £32.95
ALONE IN THE DARK TRILOGY - CDs
Alone in the Dark 1, 2 and 3 together! £37.95

EMERALD BUDGET OFFERS

MAC PACK VOLUME 1 - 7 Programs!
MYST, Daedalus Encounter, Descent, Concert Wars, Making Music, Rock-Rap & Roll and In Bed with Rednex £29.95

MAC PACK VOLUME 2 - 7 Programs!
3D Atlas, Learn to Speak French with Asterix, Peanuts Year to Learn, DK's The Way Things Work, Grolliers Encyclopaedia '95, Cinematica '94 & Wacky Jacks £29.95

BUY MAC PACK 1 & 2 TOGETHER TO RECEIVE CLARIS ORGANISER V1.0 AND CLARIS IMPACT V1.0 FREE!!!

Kings of Solitaire (Floppy) £9.95
Pirates of Gold (Floppy) £9.95
Spectre Supreme (Floppy) £7.95
Scrabble Deluxe £9.95
Descent £9.95
MYST £9.95
Daedalus Encounter £9.95
Grollier '95 £4.95
Apple Modem Cable £1.00
8 Ball Deluxe Pinball, Harpoon 2, £14.95
Stradivarius & Four Footed Friends, 1CD! Anyone for Cards, Dragon's Lair £9.95
Journeyman Project Turbo £9.95
Mac CUBE (200 Sharewares on 7CDs) £19.95
One Stop CD Shop (10 CDs) £29.95
Space Ace and Pax Imperia £12.95
Total Distortion £14.95
Microsoft Wine Guide £7.00
Pinocchio CD Age 4-7 £11.95
New Kid on the Block £9.95
Space Quest 6 £9.95

NOW OPEN SATURDAY 10AM-4PM
For Phone Orders

PLEASE PHONE FOR ADVICE AND FREE CATALOGUE

INTERNET STUFF

33.6 Voice/Fax/Data Modem £109.95
Adobe PageMill, Adobe SiteMill, Claris HomePage, Claris eMail, Eudora Pro, CyberFinder £Call for software prices
DigIPhone Deluxe (Net Phone Calls) £Call

PRODUCTIVITY

Art Pad 2+Dabble 2+eraser pen £139.95
Ultra Pad A5 £Call
Ultra Pad A4 £Call
8 Speed CD-ROM Drive £209.95
3D Landscape Designer £49.95
Apple Media Tool V1.3 £14.95
Claris Organizer V1 + Impact V1 £19.95
Claris Impact V2 LIMITED OFFER £34.95
Conflict Catcher £Call
Corel Gallery Vol 1 £29.95
Corel Gallery Vol 2 £24.95
Handwriting Fonts £24.95
Personality Fonts £14.50
Kid Desk £39.95
Disk Doubter £59.95
Master Juggler Pro £Call
MacLink Pro £Call
MYOBv6 £154.95
Norton Anti Virus - SAM £Call
Norton Suitecase £Call
Norton Utilities £91.95
NOW Up to Date + Contact £19.95
Personal Backup £Call
Religious ClipArt £19.95
Route 66 UK + Ireland £28.95
Route 66 UK + Europe £39.95
Spellcatcher £Call
Power Tools £Call
KPT Vector Effects £Call
KPT Convolver £Call

SCREENSAVERS

After Dark 4 £16.95
CATZ CD Screensaver £12.95
Disney Screensaver £31.95
DOGG CD Screensaver £12.95
Looney Tunes Screensaver £16.95
Star Trek Screensaver £16.95
Star Trek Next Generation S/saver £19.95
Simpsons Screensaver £16.95
Totally Twisted Screensaver £16.95

STAR TREK

Star Trek Borg £29.95
Star Trek Deep Space 9 £27.95
Star Trek Final Unity £34.95
Star Trek Judgement Rights £29.95
Star Trek Klingon £32.95
Star Trek Omnipedia £24.95
Star Trek Screen Savers (see above)

TYPING TUTORS

Mavis Beacon Teaches V2 £34.95
Key's Typing Tutor 4-8 £24.95

QUAY 2 TRAINING CDs

Excel, Microsoft Word £44.95
Claris Works 3, Freehand 5, Illustrator 5.5, Macromedia Director 4, MS Office, Xpress, PageMaker 5, Photoshop 3, £69.95
6 hours intensive tuition on each CD!

VTC TRAINING CDs

Claris Works, FileMaker, Freehand, Illustrator, Director, PageMaker, Quark, PageMill, Photoshop and Web Master £29.95

MUSIC SOFTWARE/HARDWARE

SEQUENCERS

Coda Finale £499.95
Coda Finale Allegro 32 slave notation £199.95
Concertware Personal £14.95
Cubasis Starter Pack Inc. £139.95
Cubasis, Micro Mac MIDI interface & 10 songs £118.95
Cubasis 64 track sequencer £295.95
Cubase 3.0 VST £456.95
Cubase Score £744.95
Cubase Audio £329.95
Logic Audio Module 2.5 £249.95
Logic Audio Package £579.95
Micrologic LX Inc. £124.95
Micrologic Log 2 Mac MIDI interface & demo songs £229.95
Music Shop Band in a Box & MIDI Translator 2 £179.95
MU10XG - Inc. Cubasis

MIDI INTERFACES

Micro Mac MIDI I/F - 1 in, 1 out £47.95
Log 2 Mac MIDI I/F £61.95
1 in, 3 out, printer thru, metal case. £69.95
Translator II MIDI I/F £129.95
1 in, 3 out, printer thru switch £129.95
Translator Pro MIDI I/F £229.95
features 2 in, 6 out, 32 channel, SMPTE

SPEAKERS

ZY-FI Compact - 8W, 16W Peak £12.95
ZY-FI 12W, 64W Peak £31.95
ZY-FI 36W, 120W Peak £46.95
Yamaha Active - M5 35Wch £48.00
Yamaha Active - M15 100Wch £68.00
MSMW - 10 25W Subwoofer System £116.00

EMERALD CREATIVE TECHNOLOGY LIMITED

Rapid House, 54 Wandle Bank, London SW19 1DW

100101.1027@compuserve.com
Tel: 0181 715 8866 Fax: 0181 715 8877

EDUCATIONAL ORDERS WELCOME DISCOUNTS ON SELECTED PRODUCTS!





PRICE £39.99	ON SALE Now	CONTACT Interplay on 01628 423666	WEB SITE http://www.macplay.com/
MAC PowerMac only	POWERMAC	Processor: any • RAM: 5Mb	REQUIRES System: 7.5.1 • Screen: 640 x 480 • Colours: 256 • Extras: CD-ROM drive

Virtual Pool

If your most consistent shot is potting the white ball, it's time to take a look at your pool technique. This CD claims it will prepare you to take on the world...

This CD opens with a dramatic claim. Putting its money where its virtual mouth is, the developer MacPlay states that if *Virtual Pool* doesn't actually improve your pool technique, it will refund your money. This is a dream come true if you regularly get walloped by all and sundry down at your local. It's a proud boast, but is it for real?

Virtual Pool is played on a functional, if not visually stunning, 3D table, and you can view your shots from every discernible angle. Four different forms of pool are covered, including the popular eight-ball option found in most pubs across the country. The others are nine-ball, straight pool and rotation pool.

Once the game loads, you're presented with a pool table, and from here you, well, play pool. The control system is

well thought out, and quickly mastered. You use the mouse to aim the cue ball, and then hold down S before rolling the mouse backward, then forward, which strokes the cue. The faster you roll the mouse, the harder the shot. Ingenious.

Of course, there's more to pool than that – depending on where you strike the cue ball, you can control where it will end up. Aim the cue at the top of the ball and you'll generate top-spin, which means the ball keeps rolling forward after it strikes another ball. Aim it at the bottom and you'll get back-spin, which either stops the ball dead or, if you hit it hard enough, will send the ball back in the direction it came from. If you can do it in real life, you can do it in *Virtual Pool*. It obeys all the laws of physics, which is why, as you play the game, you'll be building up valuable experience for the next time you decide to play down the pub for a pint.

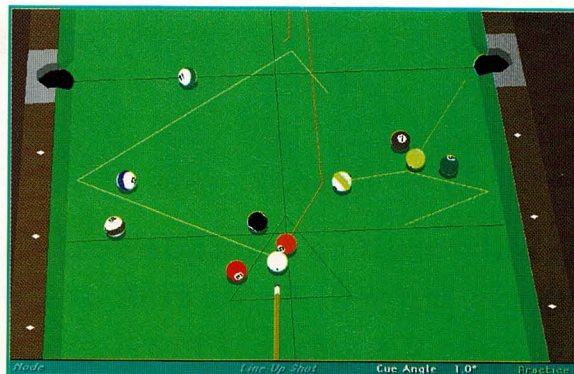
To aid the learning process, *Virtual Pool* boasts nine different computer opponents for you to battle with, and each lives up to its name: Mrs Offen is the easiest to beat, and Dead-Eye Dan is a superb shot (as opposed to being blind). By the time you reach Cautious Clay, the standard is getting towards top-notch.

What has to be the most useful training feature of the game, though, is the tracking option, which is available in all practice modes. Press T and as you line up your shot, lines will show where each of the balls will end up depending on where and how you hit the cue ball. This is perfect for mastering – or even creating – trick shots that will amaze and astound your mates.

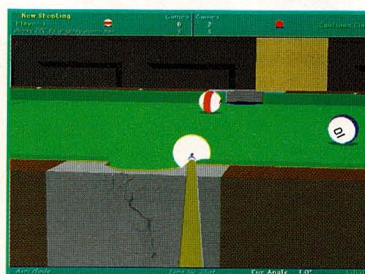
A classic, then?

With all this in mind, you'd think *Virtual Pool* is a winner all the way. Not so. Pool players up and down the country will be confused by the rules, for starters. Rather than you surrendering two shots for a foul, your opponent can place the cue ball anywhere on the table for their next shot. This, apparently, is the "professional" rule, but an option for amateurs would be welcome.

The game also suffers from having an unusual glitch. You can actually strike the cue through other balls in order to hit the white. This means you can't put pressure on a human opponent by



Virtual Pool's tracking option makes it possible to line up impossible-looking shots. This shot uses the orange and green striped balls to pot the green in the middle pocket.



You can alter the angle you view the table. This is perfect for those awkward middle-pocket shots.

placing the white right next to another ball. Of course, you can try to play around the problem, but there's no challenge if the computer can't tell when you've fouled.

It's a glaring mistake to have made, which is why our rating is much lower than it might have been. Let's hope MacPlay sorts out the bug and adds the rules for amateurs in time for a sequel. You would then be looking at the definitive game of computer pool. And a pub full of beaten pool players. **NICK PEERS**

Virtual Pool

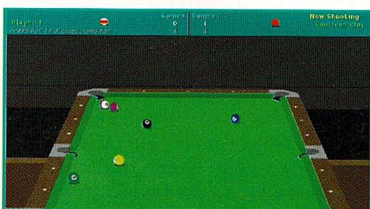
If it wasn't for that damned glitch, *Virtual Pool* would be excellent value for any budding pool shark.

Graphics	70%
Sound	50%
Gameplay	80%

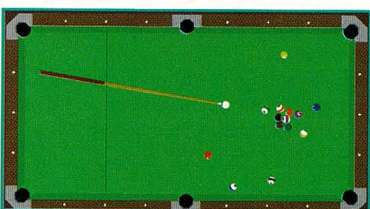
MF rating 71%



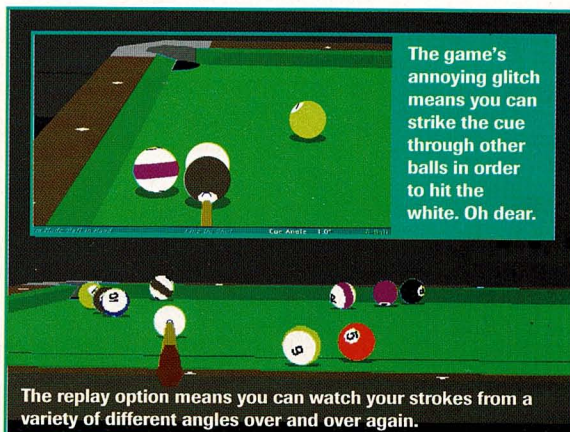
This angle is good for checking whether your ball will squeeze through the gaps.



Here we see Cautious Clay on his way to another crushing victory. Git.



This view of the table is one most pool players only dream of.



The game's annoying glitch means you can strike the cue through other balls in order to hit the white. Oh dear.

The replay option means you can watch your strokes from a variety of different angles over and over again.



Four-ball fully playable demo can be found in the Demos folder.



PRICE £34.99 **ON SALE** Now **CONTACT** Interactive Ideas on 0181 805 1000 **WEB SITE** <http://www.emme.com/>
MAC Processor: 68LC040 • RAM: 8Mb **POWERMAC** Processor: any • RAM: 8Mb **REQUIRES** System: 7.1 • HD space: 8Mb • Screen: 640 x 480 • Colours: thousands
 • Extras: 2x CD-ROM drive

The Sacred Mirror of Kofun

It bills itself as a unique scuba diving adventure game, but will *Kofun* sink or swim? Drop anchor and take the plunge into previously uncharted waters.



One of the game's main pleasures is diving around sunken Japanese warships looking for clues. And corals. And fish. And skulls.

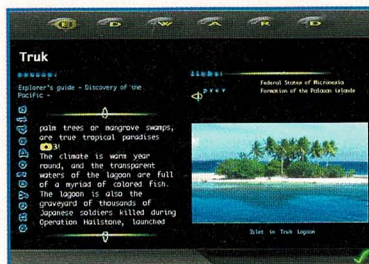
When the two worlds of multimedia and gaming collide, you can usually expect a crash. Then a splash, and a final product that either swims with the fishes or plummets into the depths of software substandardness like a heavy stone.

The *Sacred Mirror of Kofun* is a program that combines adventure gaming with multimedia-based learning. The fact is that the theme here is diving, so does this three-disc set head for rock bottom in more ways than one?

Playing *Kofun* (pronounced "Kofoon"), you find yourself in the role of a deep-sea diving action-hero type. Your task is twofold. First, you have to find a decent location to build an underwater research station. Second, you must seek out a man called Braddy along with the Mirror of Kofun, an ancient Japanese artefact he was hunting for when he disappeared. At your disposal is a high-tech ship called the Antares, complete with a cheeky talking computer and comms network, analysis equipment and three mini-sub.

Life on the Antares is lonely. If you thought sailors had it bad, here you can only talk to the four other crew members via a video comms unit, asking them a set of predefined questions. Often, they are not even in to take your call, even though they're not to be found elsewhere on the ship.

Hence, you have to brave the wild waters of Micronesia all alone. But eventually, you receive a message from Braddy, which shows some coordinates where you can do some diving. While submerged, you take pictures of coral



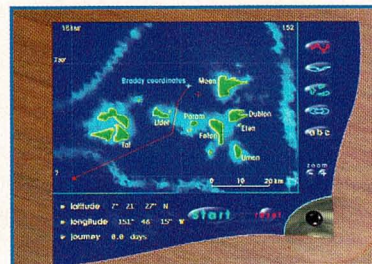
To solve the mystery it's necessary to refer to the ship's encyclopedia – full of info on the South Pacific.

reefs that happen to be growing on sunken Japanese battleships. After analysing the pictures using the ship's computer, EDWARD, you start to solve the mystery of the missing Mr Braddy.

From the outset, the game mixes tedium and confusion. Moving around your launch and going on dives is a slow and cumbersome process. At the same time it takes ages to figure out just what it is you're supposed to be doing and how you can do it. This is not a game that tests your wits. Rather, like certain famous forms of oriental torture, it tests your levels of perseverance, to the limit.

Thankfully, *Kofun* does eventually open up to reveal certain hidden depths. It might take eight or ten hours of hard playing time to work out all the jiggery-pokery involved in deciphering the clues you find, and the game might not feel like the most compelling adventure plot about, but at least *The Sacred Mirror of Kofun* brings in a few special elements you won't find in most other adventure games.

When you do manage to get into it, you'll discover *Kofun* has a surprising amount of cultural content. You'll find yourself reading up on Amaterasu Omikami, the Japanese sun goddess for whom the Mirror of Kofun was originally crafted. Elsewhere, the game requires you to learn a little about the people of Micronesia, their history and traditions. When you dive, you collect more pieces of the story. Then you'll discover that the Mirror found its way to Micronesia via a WWII Japanese warship, and with that



When you've worked out how to set sail, you navigate using this map. Here are the islands surrounding the Truk lagoon.

little bit of storyline comes some useful 20th Century history as well.

On top of all the cultural references, nature lovers will be lured by the coral reef exploration on offer. To find clues, you have to do a lot of diving, which mainly means you get to watch fancy videos showing how the coral has colonised the Japanese ships sunk in the

Truk lagoon during the war. These hulking vessels are now veritable forests of coral, and home to countless fish and crustaceans. Part of your mission is to spot a suitable location for an undersea research station in order that it can study artificial reefs, so you have to find out certain facts about marine life – again from the ship's computer.

This collision of multimedia and gaming isn't a disaster of Titanic proportions. Though *Kofun* may take quite a while to fathom out, there is the glimmer of treasure within if you're extremely patient. If the adventuring side of it were a little more immediate and intuitive, it wouldn't feel like such a sinker. Despite its cultured charms, it's too inaccessible. **GARRICK WEBSTER**

The Sacred Mirror of Kofun

There's some good environmental and cultural content, but the adventuring is too dull and unstructured to draw you in.

Graphics	78%
Sound	72%
Gameplay	41%

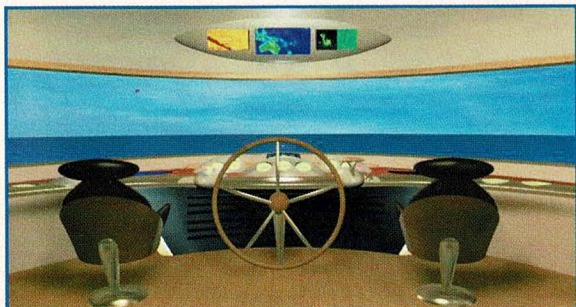
MF rating 58%



Click to navigate your way around the Antares and watch pre-rendered animations of your movements on the centre screen.

An added Power bonus

If you have a Power-Mac, you can play the VR version of this game. It boasts 3D scrolling motion as you navigate your way around the Antares. As ever, to get the best features out of the game you need a bigger and faster Macintosh.



As with most pre-rendered games, the interior of your ship is extremely sterile looking.



PRICE £39.99	ON SALE Now	CONTACT Sierra on 0118 920 9100	WEB SITE http://www.sierra-online.co.uk/
MAC Processor: 68040, 33MHz • RAM: 8Mb	POWERMAC Processor: any • RAM: 8Mb (8Mb free for in-game speech)	REQUIRES System: 7.1 •	
Screen: 640 x 480 • Colours: 256 • Extras: 2x speed CD-ROM drive (4x speed recommended)			

Torin's Passage

Another entertaining adventure game for the Mac with puzzles and potential, but is its slightly risqué name the funniest thing about it? Join the quest to find out more...

How many victims of kidnapping do you know? One or two? Half a dozen? Ten? Unless you're a member of the Kennedy family or close friends of some Middle-Eastern oil barons, the answer to that question is probably none at all. Rare event, you see, kidnapping.

So how is it that nearly every fantasy adventure that's ever existed uses a kidnapping as a starting point? Do authors think, "Hmm, this is fantasy after all – time to exercise my strange fascination with abduction"? They do if *Torin's Passage* is anything to go by. There Torin is, peacefully minding his own business, when all of a sudden a strange force descends from the sky, turning his parents into blocks of ice and whisking them off to the spirit in the sky. Who's responsible? Why are these two peasants of such importance? Why didn't they take Torin as well? These are the sort of questions you could build a fantasy adventure around. Oh look, someone has.

Torin's Passage (a definite triumph for



Our hero, Torin, is plainly in need of a slap. No one should be allowed to look this smug and go unpunished.

Sierra's Game Naming Committee) is an "adventure the whole family can enjoy". Although this reassuring familial phrase might well be true in the taste and decency stakes, the chances of finding a family where every member enjoys what has to be one of the slowest-paced adventure games of all time is another matter altogether.

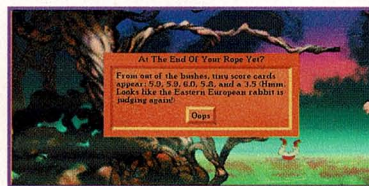
Torin's Passage is rare in the field of adventure games, in that the character you play is on screen at all times, represented as a little blonde boy in pantomime clothes. The idea is to send Torin off to investigate the horrible disappearance of his parents by pointing and clicking. Clicking on the edge of the screen sends Torin off that way; clicking on objects that light up the cursor causes him to investigate them more closely, and clicking on some of these "cursor-lighters" will enable Torin to pick them up and place them in his inventory. To use these items, simply drag them out of the inventory area at the bottom of the screen and place them on top of the thing you want to use them with. This is fairly standard for adventure games and adequately slick in practice.

For each puzzle that stands in Torin's way (and there are plenty of them – his adventures take him through five different worlds), points are awarded. Against this, a hint system will cost you points each time you resort to it – the better the hint, the more points it costs. The game's puzzles are difficult in places but for the most part they have a firm, logical construction that eliminates the need for repetitive (and frustrating) trial-and-error gaming.

The biggest problem with *Torin's Passage*, though, is the maximum speed at which you can play it. Even on a Power-Mac (effectively the minimum entry level for the game; it's too slow on anything less), the pleasure taken in Torin's animated procession from one game area to another soon wanes. In situations where you become stuck and have to resort to a bit of good old "wandering about", an unacceptable proportion of game time is spent sitting back and watching the scenery scroll past. It's



Torin's movement consists of sprite animation over-layed on the background scenery. For the most part, it's pretty convincing.



It's not possible to meet with a grisly end in *Torin's Passage*, although some of the jokes do make up for that.

extremely difficult to envisage *Torin's Passage* holding the interest of your younger family members for long.

So *Torin's* is another entry in the Mac's over-long register of adventure games. In truth, its technical accomplishments, humorous moments and occasional dashes of plot originality lift it above the average, but not by much. Time spent with *Torin's Passage* is time you could have spent playing *Command and Conquer* – and that is an eminently better use of your time.

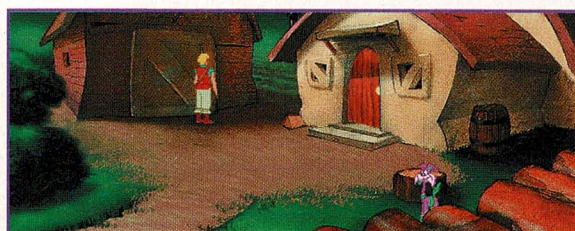
JAMES ASHTON

Torin's Passage

A well-animated point-and-click adventure game with some taxing puzzles, but it lacks the pace of a classic.

Graphics	81%
Sound	73%
Gameplay	71%

MF rating 72%



Look around your homestead for useful things to pick up. There's a rope and an axe up for grabs.

All aboard

The author of *Torin's Passage* is Al Lowe, who is also responsible for the *Carry On*-style *Leisure Suit Larry* adventure series. We reviewed *Love for Sail*, the seventh and most recent *Larry* game, in *MACFORMAT* 51, and it scored 63%.



A fully animated introduction is, of course, de rigueur nowadays. At least something in the game runs at full speed.

Feline friend

Throughout his adventures, Torin is accompanied by his blue friend, Boggle. Quite what Boggle actually is is anyone's guess but suffice it to say, he's a cat-like animal who can change his shape in a variety of amusing ways. He has his own item inventory as well, enabling him to pick things up and help Torin in his puzzle-solving.



PRICE £39.95 **ON SALE** Now **CONTACT** Sierra on 0118 920 9100 **WEB SITE** <http://www.sierra-online.co.uk/>
MAC **Processor:** PowerMac only **POWERMAC** **Processor:** any • **RAM:** 16Mb **REQUIRES** **System:** 7.1or later • **HD space:** 20Mb •
Screen: 640 x 480 • **Colours:** 256 • **Extras:** 4x speed CD-ROM

Lighthouse

The Dark Being

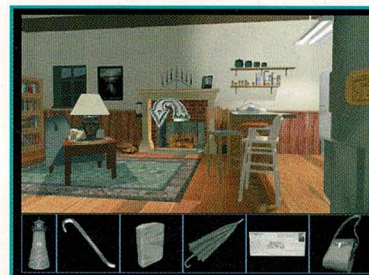
There's a storm brewing in this adventure game, and you play a struggling writer caught up in the ensuing chaos. Prepare to don your detective's cap...

PowerMacs are powerful machines – so powerful in fact, if *Independence Day* is to be believed, that they can save the world. In the light of this, why games like *Lighthouse* are still being programmed and thrown out to an unsuspecting public remains a mystery.

Fancying itself as a next-generation *Myst*, the game focuses on the mysterious goings-on at an old lighthouse on the Oregon coast. You play a troubled writer who's moved to the country to knock your novel into shape. In the local town, you meet Dr Krick, an eccentric scientist who lives in the old lighthouse a mile down the coast from you. Dr Krick lives alone, save for his baby daughter Amanda, and you can't help but feel there's more to him than meets the eye.

One stormy night, a panicked Dr Krick leaves an anguished message on your answerphone. You jump into your car and drive down the coast to the lighthouse. With Dr Krick absent, you force your way into the house and witness a horrifying event: the kidnapping of baby Amanda by a green demonic being in tight pants. Taking this in your stride, it's now up to you to piece together what Dr Krick was researching, what he's uncovered and use that knowledge to rescue both him and baby Amanda.

Unfortunately for *Lighthouse*, its shortcomings as a game stifle any chance of you enjoying your quest. Each game scene is portrayed as a still in which you



The shape of the cursor determines which direction a mouse click will move you. Here, it's a swift about turn.



Above: Drive to Dr Krick's house in your nice green car. And then get out. That's about as exciting as it gets, really.

Left: Your inventory fast fills with interesting items such as handbags, umbrellas and letters. Oh, the sheer gaming buzz.

Strange days

Because of the Mac's superior multimedia capabilities, games such as *Lighthouse* are usually developed for the PC on a Mac. They then get ported back to the Mac from PC code, which is odd really when you think about it.

can activate certain hot-spots by mouse clicks. You can pick up some items, add them to your inventory and use them by dragging and dropping them on other things. All pretty standard stuff, except for the fact that *Lighthouse* requires a PowerPC chip and a whopping 16Mb of memory to accomplish an interface barely more polished than games of two years ago.

Such high-spec requirements could be forgiven if the game were any good, but it's not. *Lighthouse* is pedantic, linear and, in places, just plain illogical. Take, for example, your arrival at the lighthouse. You can't walk down the hall

a fuse box in it. You reset the box and, at last, the lights are turned on. Back in the house, you can now walk down the hall.

This little "puzzle" illustrates *Lighthouse's* whole gameplay problem. Each advance you make is by chance or trial and error. There are no pointers as to what to do, no clues to assimilate and no satisfying cognitive leaps to make. In real life, you'd have found the light switch, realised the electricity was off and then perhaps worked out that you needed to find a fuse box. In *Lighthouse*, there's not even a light switch, functional or not.

Lighthouse is barely a game in the conventional



The scenes are well drawn but they're extremely slow to load and there's no movement animation between them. Bah!

sense. It's more a test of endurance and one that will drive you to tears. The fact that only people with big Macs can play it really comes as a lucky break for those struggling along with something more modest. Avoid.

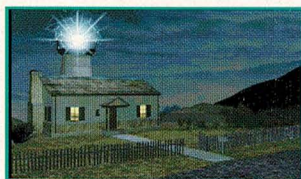
JAMES ASHTON

Lighthouse: The Dark Being

Uninspired, frustrating, illogical and power-hungry graphical adventure. An underwhelming experience you can live without.

Graphics	70%
Sound	73%
Gameplay	53%

MF rating 55%



From the outside the Doctor's house looks like a two-room stone shack. Inside, though, it's a spacious little number with all mod cons.

In the old days lighthouses were a lot taller. That was before the EU brought in the "Standard Height of Luminescent Warning Buildings" directive, of course.



01723 582100

Sales fax: 01723 582141

macsales@macgold.com

www.macgold.com

Mon - Fri 9am-8pm Sat 10am-6pm Sun 10am-4pm

PRICES
INCLUDE
VAT &
DELIVERY

MacGold Direct

...Celebrating 4 years of Excellence 1993-97



Applications

Prices INCLUDE UK delivery

ex VAT inc VAT

Accounts

Best Books 68.04 79.95

MacMoney 65.49 76.95

MYOB Accounts 6.0 136.13 159.95

Utilities

Aladdin Desktop Tools 48.47 56.95

Conflict Catcher 4 52.72 61.95

DataSaver 31.45 36.95

DiskExpress II 55.28 64.95

DiskGuard 68.04 79.95

Dr Solomons Anti Virus (inc updates) 70.00 82.95

FileGuard 3.0 123.36 144.95

Folder 5 119.11 139.95

FWB CDROM Toolkit v2.0.5 46.77 54.95

FWB Hard Disk Toolkit Personal 2 46.77 54.95

FWB Hard Disk Toolkit 2 102.09 119.95

FWB Turbo Toolkit 46.77 54.95

Now Contact & Now Up To Date 3.6 51.02 56.95

Now Utilities 6.5 63.79 74.95

Norton Utilities 3.2 75.70 88.95

Now Startup Manager 7 39.96 46.95

Personal Backup 30.60 35.95

PopUpFolder 28.04 32.95

Ram Doubler 2 36.05 42.95

Ram Doubler 2 upgrade 27.19 31.95

SAM v4.5 (3.5") 59.33 69.95

Speed Doubler 2 50.17 58.95

Spell Catcher 50.17 58.95

SpringCleaning 28.89 33.95

Stuffit Deluxe 4.0 inc Spacesaver 68.04 79.95

Virex 5.6.8 63.79 74.95

Applications

Bryce Accessory Kit 58.68 68.95

Claris Organizer 2.0 58.68 68.95

ClarisWorks 4.0 Internet 85.06 99.95

ClarisWorks 4.0 Internet (Academic) 76.55 89.95

CorelDraw 6 246.77 289.95

Eye Candy 3.0 85.10 99.95

Filemaker Pro 3 153.15 179.95

Info Genie 2.0 42.51 49.95

Kal's Power Goo 42.51 49.95

Key CAD Complete 25.49 29.95

KPT Actions 46.77 54.95

MacOS 7.6 62.09 72.95

Power Translator Fr, Ger or Span each 85.06 99.95

Route 66 UK & Eire 21.23 24.95

SOAP Media Tools 47.62 55.95

SoftWindows 3.0 (3.5") 199.66 234.95

SoftWindows 95 v4 285.06 334.95

SoftWindows 95 Upgrade to v4 110.60 129.95

DTP & Clipart

ClickArt 25,000 Images (& 1000 fonts) 28.04 32.95

ClickArt 65,000 Images (& 2000 fonts) 34.00 39.95

Corel Gallery 17.83 20.95

Corel Gallery 2 25.49 29.95

Corel PrintShop 19.53 22.95

Flight Catcher 3.0.7 255.28 299.95

Key Clipart 5001 9.32 10.95

MasterJuggler Pro 2.0 (3.5") 51.02 59.95

PrintShop Deluxe (3.5") 25.49 29.95

Suitecase 3 57.83 67.95

Internet & Comms

2000 Animated Internet Gifs 12.72 14.95

Adobe PageMill 2.0 66.30 77.95

Adobe PageMill 2.0 upgrade 45.06 52.95

Animation Warehouse 12.72 14.95

Claris E-mailer 2 47.62 55.95

Claris Home Page 2.0 76.55 89.95

Expert Website ClipArt 11.02 12.95

Fax STF 3.2 59.53 69.95

Snatcher 38.26 44.95

Symantec Visual Page Call 49.95

WebWhacker 42.51 49.95

PLEASE CALL IF YOU CANNOT
SEE THE TITLE YOU WANT

Zip Disks

1 5 10

IOmega brand 12.49 59.95 109.95

SONY brand 13.49 63.95 119.95

EZ135 Carts

SyQuest brand 17.95 84.95 158.95

d2 brand 16.95 79.95 149.95

EZ230 Flyer carts

SyQuest brand 25.95 109.95 189.95

Verbatim CD-R

74 min CD-R 7.95 36.95

How to Order from MacGold

• Salesline 01723 582100 Faxline 01723 582141

• E-mail macsales@macgold.com

• http://www.macgold.com

• Prices INCLUDE vat @ 17.5% (ex VAT prices are also shown for Applications & Utilities and Accessories).

• All prices INCLUDE delivery in the UK

• OPTIONAL next working day delivery is £4.95

• International shipping is charged at cost

• Credit cards are not charged until goods shipped

• Please ensure that software is compatible with your computer equipment before ordering.

• Goods are not supplied on a trial basis.

• Prices and availability may change without notice.

• Latest information is available on the Web Site.

• Prevaling prices are always confirmed with you when ordering. E & O.E.

• ORDERING BY MAIL - Check price and availability by phone BEFORE ordering. Make cheques & postal orders payable to 'MacGold Direct Ltd'. Send to MacGold Direct Ltd, P.O. Box 63, 115 High Street, Scarborough YO11 3YW. Cheques take 5 working days to clear. Same day cheque clearance by TRANSAX costs as little as £1.20 for an order under £100 - call for details.

• EDUCATIONAL Establishments may purchase on 30 day credit terms for an order over £100 (ex vat) in value. Such orders wanting credit terms must be submitted in writing on an official order form.

• All sales are subject to MacGold Direct's terms & conditions of sale which do not affect your statutory rights.

EDUCATION & LEARNING

Educational prices inc VAT & delivery

Anglia Multimedia

Exploring Geography [7-16] 22.95

includes - The World's Weather, British Isles from the Air, and World Population Atlas

Exploring History [7-14] 22.95

includes - Nelson & His Navy, Exploring Castles and Industrial Revolution

Exploring Reading 1 19.95

Exploring Reading 2 19.95

Exploring Science [7-14] 22.95

includes - Understanding the Body, Understanding Energy and, Being a Scientist

Exploring Wildlife [7-11] 26.95

includes - Seashore Life, Survival Mysteries of Nature and, Garden Wildlife

Broderbund

Arthur's Birthday [6-10] 23.95

Arthur's Teacher Trouble [6-10] 22.95

Berenstain Bears in the Dark [3-8] 23.95

Dr Seuss Green Eggs and Ham [3-7] 26.95

Harry and the Haunted House [3-8] 23.95

Just Grandma and Me [3-8] 23.95

Living Books Bundle - Ruffs Bone, Dr Seuss ABC, New Kid on the Block & Berenstain Bears Fight Ruffs Bone [3-8] 21.95

Tortoise and the Hare [3-8] 23.95

Creativity

Crayola Art Studio 2 [3-12] 33.95

Creative Writer & Fine Artist 40.95

Kid Pix Studio [3+] 23.95

Only's Draw A Story [5-11] 25.95

PrintShop Deluxe (3.5") 29.95

Simpsons Cartoon Studio 25.95

Storybook Weaver Classic 16.95

Disney CDROM

All Disney products are official UK versions

101 Dalmatians Storybook [3-7] 27.95

Aladdin's Magical Storybook [3-7] 27.95

Aladdin Activity Centre [6+] 26.95

King of the Jungle [up to 10] 32.95

King of the Jungle Storybook [up to 9] 32.95

Pocahontas Animated Storybook [up to 9] 32.95

Toy Story Animated Storybook [3+] 30.95

Toy Story Activity Centre [5+] 31.95

Winnie the Pooh & Honey Tree [3-8] 34.95

Dorling Kindersley

All DK titles are UK versions NOT imports

Castle Explorer 19.95

Children's Multimedia Dictionary [8-12] 24.95

Chronicle of the 20th Century 24.95

Encyclopedia of Space & Universe 26.95

Eyewitness Encyclopedia of Nature 24.95

Eyewitness Encyclopedia of Science 2.0 [12+] 24.95

History of the World 23.95

My Amazing World Explorer Activity Pack [4-9] 21.95

My First Incredible Amazing Dictionary Activity Pack 19.95

PB Bears Birthday Party 19.95

Stowaway 19.95

Ultimate 3D Skeleton 19.95

Ultimate Human Body 2.0 [10+] 24.95

Virtual Reality Car 19.95

Virtual Reality Dinosaur Hunter 19.95

Virtual Reality Earth Quest [6+] 19.95

Way Things Work 2.0 24.95

World Reference Atlas 31.95

Educational

Fisher Price Ready for Pre-School [2-4] 29.95

Jump Ahead - Discovery Tree [4-8] 24.95

Jump Ahead - Pre-School [3-4] 24.95

Jump Ahead - Toddlers [1-5-3] 18.95

Jump Ahead - Year 1 24.95

Kids Time Deluxe [3-8] 29.95

Lost Mind of Dr Brain [12+] 22.95

Mavis Beacon Teaches Typing 2 37.95

Muppet Treasure Island 24.95

Play Skool Puzzles [3-6] 16.95

Sim Town CD [8-12] 19.95

Time Warp of Dr Brain 25.95

Treasure Hunt [4-9] 18.95

English Language

Amazing Writing Machine [5-12] 19.95

Reading Maze [3-7] 39.95

Spell It 3 [6 to adult] 24.95

Geography

3D Atlas 97 28.95

Backpacker 29.95

Carmen San Diego Jr Detective [5-8] 19.95

Where in the World is Carmen San Diego [9+] 19.95

History

Ancient Lands Microsoft 24.95

PowerCD World History 4 CD set 34.95

The Times - Perspectives World War One 35.95

The Times - Perspectives World War Two 35.95

Where in Time is Carmen (3.5") 19.95

Interactive Storybook

Darby the Dragon [5-10] 16.95

Dragons [5-10] 16.95

Fish Who Could Wish 15.95

Gregory & the Hot Air Balloon [5-10] 15.95

Haunted House Jan Penkowski [4+] 15.95

Playtoons 1-5 Series [4-10] Call

Playtoons Knights, Monsters or Wild West each 10.95

Winnie the Witch [5-10] 16.95

Iona

A to Zap 13.95

Amazing Maths [8-12] 13.95

Bailey's Book House [2-6] 13.95

Book Workshop 13.95

Mighty Maths Carnival Countdown [4-8] 18.95

Mighty Maths Number Heroes [8-12] 13.95

Muppets Beginning to Read [3-7] 13.95

Muppets Read Listen and Learn [3-7] 13.95

Sammy's Science House [2-10] 13.95

Stanley's Sticker Stories [3-7] 13.95

Thinkin' Things [4-8] 13.95

Thinkin' Things 2 [6-12] 13.95

Thinkin' Things 3 [8-16] 13.95

Trudy's Time & Place House [3-8] 13.95

Type to Learn 13.95

Keyboard

Comfy Keyboard (for TONY) ages 1-6 49.95

- more like an activity centre! - includes 2 CDROMs

Languages

Easy Language 17 - learn 17 languages! 30.95

Learn French Asterix & Son (2 CD set) 45.95

Multimedia Flashcards Series [ages 4-12]: Learn French, Spanish, Irish, Italian, American English, Arabic, Chinese, Danish, Dutch, English, Finnish, Greek, Hebrew, Hungarian, Japanese, Maltese, Norwegian, Polish, Portuguese, Russian, Swedish, Turkish, Welsh, or German each 24.95

Talk Now Series for Beginners: Learn French, Spanish, Irish, Italian, American English, Arabic, Chinese, Danish, Dutch, English, Finnish, Greek, Hebrew, Hungarian, Japanese, Latin, Maltese, Norwegian, Portuguese, Polish, Russian, Swedish, Turkish, Welsh, or German each 24.95

Transparent Language Series v5.0 [ages 12+] - French, German, Italian, Latin, Russian, or Spanish 59.95

Transparent Language: Talking Translation Dictionary 38.95

Maths

Alge Blaster 3 [12+] 25.95

Decimal & Fraction Maze [10+] (3.5") 25.95

Kid Math [3-8] (3.5") 33.95

Logical Journey of the Zombinibs [8+] 23.95

Math Blaster in Search of Spot [6-12] 26.95

Math Blaster Junior [4-7] 24.95



SHAREWARE CENTRAL

If your life is lacking that special something, perhaps it's time to join Brian Smith on his shareware pilgrimage. For very little cash, your world could be brightened up forever...



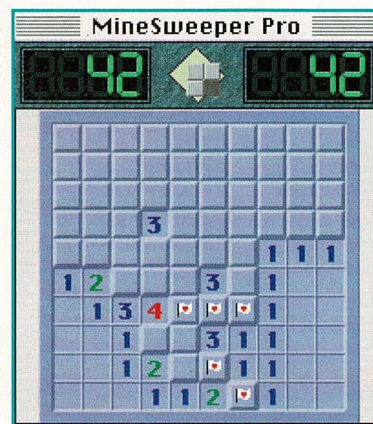
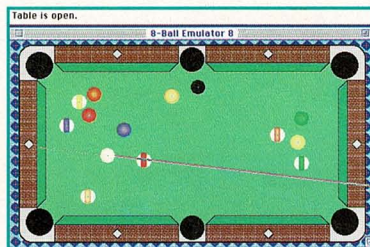
Try out all of these programs on our Cover CD.

It's shareware time again. We've carefully sorted through over 100Mb of shareware on the Cover CD and selected those that caught our eye. This month's collection will help you suss out what your Mac is up to, enable you to cheat at pool and generally annoy everyone in your office.

You can now relive those glory days of Manga-style mass destruction with *BOOM*, a conversion of *Bomber Man*, that seminal classic from the eight-bit home computers and SNES. Or, if you have an even longer memory and a self-abusive streak, have a go at *MetaPong* and find out why it's been consigned to the bin. Go on, we dare you.

There are mines in that there field, so be careful where you tread – or click.

No good at Pool? Don't worry, in *8-Ball Emulator 8* you can make the balls and the pockets as big as you want.



Perfect pitch

After you have selected the perfect name for your shareware creation (see last issue), send it in to us for review. Remember, though, that first impressions are very important, so here are a few tips to help with sending and presenting your shareware...

8-Ball Emulator 8

Game

Shareware, registration fee \$10

8-Ball Emulator 8 has nothing on *Virtual Pool* (a demo of which is on the Cover CD), but it does have some nice features and a few rather odd ones. The table is fully configurable: you can set the power of shots, the amount of friction acting on the balls, and the size of the balls. The default settings feel slightly strange, so you'll need to spend a few minutes getting them just right. The unregistered version is only playable for six minutes a day, which is annoying, but you can have lots of fun making the table behave in odd ways. There is even a built-in option to make the table tilt so that all the balls roll to the bottom right.

8-Ball Emulator 8 doesn't take much

notice of the rules of pool, as we understand them. For example, you can pick up and reposition the cue ball whenever you want. It's really a bit of fun rather than a realistic simulator, but worth wasting a few minutes on all the same.

CornerClock 1.6

Clock Freeware

If you have a small monitor and are pressed for space, *CornerClock* could be the answer – it takes space saving to the extreme. The time is squashed up into the left-hand side of the menu bar with the hour shown above the minutes. Moving the pointer over the display triggers it to show the date for a few seconds, and there is also an hourly chime option.

Time and date settings are taken from the Mac's internal clock, but a few extra set-up options are provided in the **File** menu. You can force it to show the date or play its chime, and customise its appearance in a pop-up preferences dialogue box. Oddly it's not a Control Panel or Extension, so you have to run it yourself after you restart, or put a copy in the **Startup Items** folder.

You may find *CornerClock* useful if you have a 12-inch monitor or use applica-

tions with loads of menus that hog the menu bar, such as a Teleport modem, which puts a progress bar in the menu. This can get really annoying because the progress bar and Apple clock constantly redraw themselves over each other.

MineSweeper Pro 1.0

Game Freeware

The Mac and the PC have always been rivals, but a more subtle rivalry has been fought between the Apple *Puzzle* and Windows' *MineSweeper*. They're both simple, strangely addictive throwaway games that have been endlessly copied by shareware authors.

The objective of the game is simple – use your cunning to find mines hidden on the game board. Clicking on one of the squares reveals either a number showing how many mines are adjacent to it or an explosion if you are unlucky enough to have landed on a mine. By careful elimination, you must reveal all the squares that don't contain mines and mark those that do to win the level. You mark suspect squares with a flag by [option]-clicking on them.

MineSweeper Pro is a fairly direct translation of the Windows game and is very customisable. The playing area can be up

What's shareware?

In a nutshell, shareware enables you to "try before you buy" – if you intend to keep using the program, you should pay the fee. The text files that accompany the program will tell you how much it costs and where to send the money. It'll typically cost between US\$5 and \$40, and when you do pay, the author will often give you something in return, such as a manual or updates. Freeware means there's no fee, but you mustn't alter the program or sell it yourself.



Spy U2.51 US				
Process Name	Launch time	CPU time	Heap size	Heap free
Finder	11:18:34 pm	0:09:52	189440	29700
ClarisWorks	11:31:43 pm	0:59:47	1024000	469462
SPY	12:47:14 am	0:00:47	131072	90748

Double click = Activate / Option Double click = Kill

Spy monitors the applications your Mac is running.

to 10,000 blocks, displayed in either a floating window or full screen – a game could last for days! There are also the obligatory difficulty settings of novice, intermediate and expert.

MineSweeper Pro is great for those moments (hours?) spent waiting for programs to download from the Internet. It's much better than the jigsaw puzzle that comes with the new version of the Mac OS. The only problem is that you'll still be playing hours after you should have started working again...

Spy 2.51 US

Utility

Shareware, registration fee \$10

Even when your Mac appears to be doing nothing, really it's busy. *Spy* enables you to check out exactly what your Mac is up to. It lists all the applications your Mac is currently running, as well as when they were first run, how much System memory they have grabbed for themselves, and how much of it they are currently using.

You can also make an application active by double-clicking on its name in the **Process Name** field or remove an application by [option]-clicking. It's a small utility that would be handy if you were trying to trim your Mac's memory requirements. You can watch how much of the heap an application uses and then reduce the **Preferred Size** setting in its Finder Info box to free up more memory.

TileSwitcher 1.2

Utility Freeware

There's a funny thing about using the Mac. Having such an easy to use interface can make you become lazy to the point where having to select a menu item to do something just seems too much effort. One thing that really is annoying, though, is having to use the **Applications** menu to swap between applications and make them invisible.

TileSwitcher displays a list of the currently running programs with a mark denoting which one is active. Clicking on an application name makes it active and brings its windows to the front; [option]-clicking enables you to drag the list around the screen; and [command] displays a pop-up menu with options to hide, open or quit applications.

TileSwitcher can take up a lot of screen space, particularly if you're running



TileSwitcher makes switching between applications one step easier.

multiple applications at the same time. Whether you want to use it or not depends on how precious your Desktop space is, compared to how annoying you find using the **Applications** menu.

Grid Warrior 1.2 Demo

Game

Shareware, registration fee \$15

Grid Warrior places you in a tank, trundling around the grid mentioned in the title, blasting your enemies with a laser. You control the tank's movement with the mouse and fire your laser with the keyboard. The levels are populated by a group of baddies that hatch out of eggs, which continually fall from the sky (no, really). The basic enemies, which look kind of like frogs, race around the level and are deadly to the touch. In later



The gunners are only vulnerable to your laser when they turn blue.

levels, they are joined by gunners and turrets, which try to kill you with their rapid firing. These are only vulnerable to your laser part of the time, and this is indicated by a change in their colour.

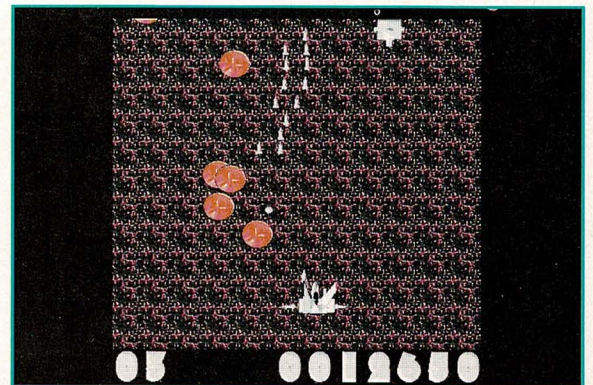
The graphics glitch a bit, leaving a trail behind the tank as it moves while the Mac struggles to redraw the background, but otherwise *Grid Warrior* runs very smoothly. It's a very fast game that can get particularly hectic in the later levels. Good fun if you like that kind of thing.

MindOut!

Game

Shareware, registration fee £9.95 + £2 P&P outside UK

As its title suggests, the aim of the game is to dodge the enemy as they swim onto the screen in vast flocks, rather than try to shoot them. One nice feature is that smaller images of them are shown on a scanner in the borders of the display, so you can see if they're about to appear. As well as homing mines, there are gun turrets that slowly move along the edges of the level, taking pot shots at you. As you progress through the full game more gun turrets appear, and you may even encounter a mothership. The unregistered version is time limited and only gives you access to the first six levels, but



Keeping your guns blazing is the best strategy in MindOut!

this is enough to give you a taste of the full game.

The graphics may be bland but at least you're left in no doubt as to what's background and what's hostile, and that is important because the game is very fast. You need to react instantly or you'll be wiped out. If you're a shoot-'em-up fan, you'll love this.

ClipAppend

Control Panel Freeware

When you copy a piece of text to the Clipboard anything that was there before is overwritten. *ClipAppend* is a small Control Panel that enables you to tack copied text onto the beginning or end of what's already stored in the Clipboard by holding down [caps lock] while you copy or cut.

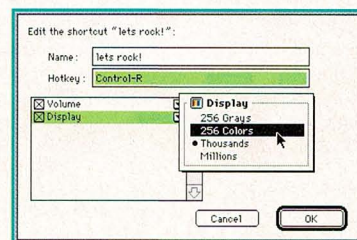
The interface is a bit strange and unhelpful, to say the least; the [caps lock] key is an odd choice to activate it and you need to use the Control Panel to swap between appending and adding to the start of original text. Surely two user-definable hotkeys for each option would make a lot more sense? It's a nice idea that could well have been far better implemented.

ColorSwitch Pro

Control Panel

Shareware, registration fee \$20

The **Control Strip** was one of Apple's better ideas. Originally it was only available to PowerBook users, but with Mac OS 7.5.5 now everyone can enjoy it. It gives you quick access to control modules that do loads of useful things ➤



Use shortcuts to set up macros that change several settings in one go.

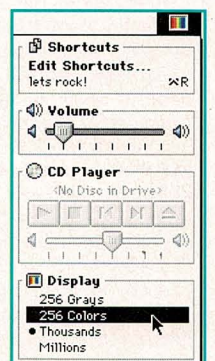
Right: There are currently only four modules available for ColorSwitch Pro.

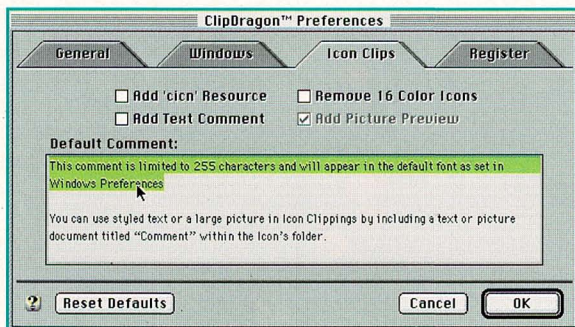
Tip 1

Floppy disks are very delicate. If you mail them, make sure you wrap them securely. Several layers of bubble pack, cardboard, newspaper, plastic, tin foil and packing tape should be enough. (Then we can have a nice game of pass-the-parcel in the office.)

Tip 2

The earth's resources are drastically overstretched, so try to re-use any old floppy disks you have lying around. Cheap, unbranded disks with bad sectors, physical damage or 17 layers of labels on them are ideal. We've got unbranded paperclips ready for when they stick in the drive.





ClipDragon enables you to add text or graphic comments to your icons – perfect if you're a shareware icon designer.

Tip 3

People never read ReadMe's, so put your instructions directly in the folder window by creating lots of blank folders and writing instructions where the folder names would be. You can get a lot into 31 characters, you know. Don't forget the ever-helpful "Click here --->"

like change your monitor's colour depth and resolution, toggle File Sharing on and off, and set the sound level. It does have a major drawback, though: it takes three actions to do anything. First you need to pull the strip out onto the Desktop, then select the required action and finally put it away again. You can just leave it opened out, of course, but that sacrifices valuable Desktop space.

ColorSwitch Pro is Ambrosia Software's answer to the **Control Strip**. It replaces the on-screen control display with a new menu next to the help icon on the menu bar. Pull down the menu and a series of modules are displayed. The default modules set the sound level, display resolution and depth, provide a full audio CD player and include a shortcuts module (potentially very useful).

Using the shortcuts module, you can set up macros that can perform any number of actions on the installed *ColorSwitch* modules. You can even give them their own keyboard shortcuts if you want. For example, you could create a game macro that changes the display to 640 x 480 resolution with 256 colours and pumps up the sound level.

Unfortunately, *ColorSwitch* isn't entirely gripe free. Because it is set up as a menu,

you can't select several options at a time, which is particularly annoying with the CD player. Another moan is that currently the only modules available for *ColorSwitch* are those supplied with the program, but if the number of shareware modules written for Apple's **Control Strip** is anything to go by, then there is sure to be a profusion of modules available soon performing every function you ever wanted. *ColorSwitch* is certainly worth a look, but don't trash the **Control Strip** yet.

Sloop 1.0

Extension

Shareware, registration fee \$20

The idea of *Sloop* is simple enough. When you move the cursor over different windows in the Finder, they are activated and brought to the front or "focused", as the author calls it. The intention is that it saves you clicking on the window to activate it, and so makes the Finder easier and more intuitive to use. Unfortunately, though, *Sloop* can get annoying after a while, because it seems to choose the most annoying times to activate all your windows.

You can customise *Sloop* by setting how long it waits after you move over a new window before it's activated, and which utilities it will work in – but this doesn't help much. If you set it to "slow" you are held up waiting for it to work, making it easier to just click on the window you need; if you set it to "fast", then every time you move over a window, it's activated, which can slow down an older Mac. Installing the *Sloop Extras* can help. These provide an **FKey** keyboard shortcut to toggle *Sloop* on and off. There are five versions of **FKey**, each with a hard-coded **FKey** combination written into them such as [command] [shift] 5.

It's a matter of taste whether you'll use

Sloop or not. We think the way the basic Finder handles windows is fine and are sticking with it.

ClipDragon

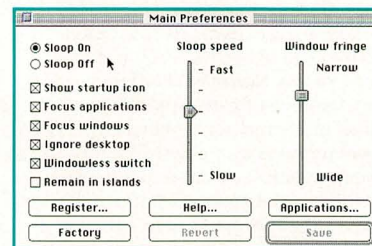
Utility

Shareware, registration fee \$15

ClipDragon manipulates text, graphics and sounds to turn them into clippings, the format added to System 7.5 as a halfway house for drag-and-drop info. Clippings appear on the Desktop as icons with ripped edges. You just have to double-click on them to view their contents in a scrolling window. They can also be copied directly into any application that supports drag-and-drop operations.

ClipDragon can handle four types of clipping: text, pictures, System 7 sound files, and icons. The application enables you to define how the clipping is displayed when you view it, and you can set the window type and the text font and style in the **Preferences** menu option.

The icon clipping type is not part of the Apple drag-and-drop system, it's been added by *ClipDragon's* author. It enables you to attach comments to your icons, which is very useful if you want to distribute them as shareware. You can insert a text or graphic file called "Comment" into the icon folder or set a default text comment in the **Preferences** menu



With *Sloop Rudder* you can configure exactly how *Sloop* "focuses" windows.

Boom

Game

Shareware, registration fee \$15

Some of the best games have the most bizarre plots – the all-time greats include *Donkey Kong*, *Pacman* and *Bomber Man*. Until now, the last has been absent from the Mac, but this is remedied with **BOOM**, a conversion of *Bomber Man*.

At first sight, the gameplay looks fairly basic but you'll soon learn there are tricks to playing **BOOM**. If a bomb is caught in the explosion of another bomb, for instance, it will detonate as well. Armed with this knowledge, you can rig up traps to take out large sections

of the level, but be careful not to blow yourself up! Manga-style baddies roam the levels taking occasional pot shots at you or throwing fireballs. **BOOM** manages to re-

tain the atmosphere of the original well.

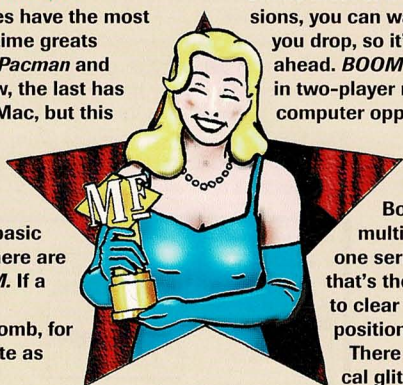
Unlike most of the *Bomber Man* conversions, you can walk through the bombs you drop, so it's not as vital to plan ahead. **BOOM** is unquestionably best in two-player mode because the computer opponents are really dumb and it's not very satisfying blowing them away time after time.

Both the single- and multi-player games have one serious flaw, though, and that's the length of time it takes to clear a path from the starting position to where the action is. There are also a few technical glitches in **BOOM** such as

the explosion sound effects occasionally corrupting, and the

game slowing down when there's a lot of action happening, but these are rare. All in all, this is one of the most enjoyable shareware games we've seen in a long time.

Star of the month



The coloured blocks sometimes hide power-ups. Grab them quickly after they are revealed or they'll fade away.

The secret to winning at **BOOM** is setting up chain reactions that blow up large sections of the level.





option. An icon clipping is created by dragging an empty folder with a custom icon onto *ClipDragon*; in fact that is how you create any type of clipping. Dropping a clipping onto *ClipDragon* will automatically convert it back to the relevant file type. So, if you find clippings useful or you design icons for shareware, then you should try *ClipDragon*.

Squeaky Toy

Extension Freeware

Some shareware programs are pointless, others are distracting or even annoying. *Squeaky Toy* is all of these... and it's great!

It's an Extension that ensures every time you click your mouse, a squeak emerges. It's hard to describe the joy of sitting in an office with ten Macs all happily squeaking away. That is, for the first ten minutes anyway. Then it starts to become mildly annoying and finally every squeak sparks increasing threats of violence and actual violence.

There's little point in reviewing *Squeaky Toy*'s usefulness because, as the author admits, it has none; or its value for money, because it's free. *Squeaky Toy*'s Info label sums it up perfectly: "Wow, that's annoying!" The office is alive with the sound of squeaking.

Font Image Library FAT

Utility

Shareware, registration fee \$5

After Extensions and Control Panels, fonts take up the most memory in an average Mac system. Each installed font eats up System memory and increases the length of time it takes your Mac to start up. You can, of course, group your fonts collection into folders and only install those you currently need, but if you have a seriously large font collection,

it can be hard to put a name to the font style you're looking for.

Font Image Library creates bitmapped images from your fonts, whether they are installed or not, and these can be printed out or just stored on your hard disk for quick reference. *Font Image Library* can automatically scan your System every time you restart your Mac to make sure its font list is up to date, so it's no hassle to maintain.

Font Image Library is especially useful if you download lots of fonts from the Internet or have enough money to buy professional font collections.

MutantDungeonVR

Game

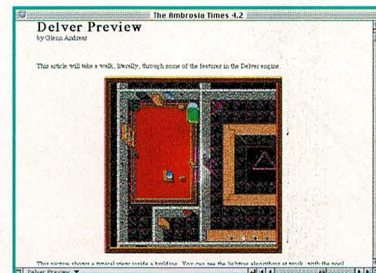
Shareware, registration fee \$10

MutantDungeonVR is a *Doom*-style 3D shoot-'em-up. Unfortunately, it's just too slow to be playable. You run by holding down [shift] while moving, but the radiation suit which is needed on some levels slows you down to a crawl.

MutantDungeonVR is lacking in atmosphere, too: the levels seem almost deserted, there's no texture mapping on the roof or floor, and very few objects scattered about. This is made up for slightly by the mutants, which are suitably bizarre. Among your foes you'll find hopping one-eyed snakes and flying eyeballs. Their artificial intelligence isn't



Wander aimlessly in *MutantDungeonVR*.



Discover the inside news about all of Ambrosia's future releases.

that good though, so they just wander around aimlessly. The unregistered version offers just three weapons: a pistol, a three-barrelled gun and a cannon similar to *Doom*'s BFG. There's no real puzzle element to the levels, either; you just walk around blasting mutants, pressing buttons and collecting keys.

This is a good attempt at writing a 3D blaster, but as *Doom I* is already available as shareware, this needed to add something new to the formula, and it hasn't.

The Ambrosia Times 4.2

E-zine Freeware

The *Ambrosia Times* is a bi-monthly e-zine that covers Ambrosia's products, development information, and background information on the Ambrosia crew. Ambrosia has been responsible for some of the best shareware for the Mac, so it is certainly worth keeping an eye on it. Issue 4.2 features previews of *Manse*, a *Doom*-type game; *Delver*, an *Ultima*-style RPG; a feature on programming for budding shareware authors with loads of useful Web links; and an interview with Glenn Andreas, the author of *Delver*. It's good to see a shareware company providing this level of support and giving you the chance for feedback.

MF

Tip 4

Why not turn the whole window into a work of art using icons? Cut up images in your favourite graphics program and paste the parts onto folders as icons. As the Mac laboriously loads icon after icon, we can try to guess what the image will be, providing hours and hours of fun.

Tip 5

Another way to stand out: avoid those boring, mass-produced printed labels, and go for that home-made touch which says, "I care." Experiment with glitter, metallic markers or even papier-mâché to give your disk a classy look. And don't worry, we still have that paperclip!

MetaPong

Nice graphics, shame about the gameplay.



Can you spot the difference? They are different shots, honest!

Game

Shareware, registration fee £5

Pong was the first console game.

Its success was based purely on its excellent gameplay because, let's face it, the graphic and audio capabilities of consoles in the late 1970s were not that good. *MetaPong*'s author says in the ReadMe file that he thinks *Pong* is a stupid game concept, which might be why he's missed the most important element in his conversion – playability.

Everything looks very nice graphically and the sound effects are all right, but surface gloss can't hide the game's limitations. The bats move very slowly, and although you can alter the speed at

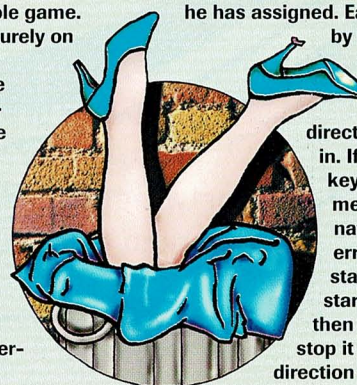
which the ball moves to fine-tune it, you are still stuck with the strange controls he has assigned. Each bat is controlled

by two keys, one for up and one for down.

Pressing one of the keys changes the direction the bat is moving in. If you hold down the keys – the control method that feels most natural – the bat acts erratically, stopping and starting. You have to start the bat moving and then press keys either to stop it or to change the direction it's moving in.

Basically, the game doesn't feel right and after a few minutes of mechanically batting

the ball from player to player, you'll wonder why you're bothering and give up. Try it at your peril.



In the bin

computer arts

The art, design and technology of the Mac and PC



IMAGE MANIPULATION ▶ 3D MODELLING ▶

GRAPHIC DESIGN ▶ ILLUSTRATION ▶ MULTIMEDIA ▶

WEB DESIGN ▶ DIGITAL VIDEO ▶ NEW TECHNOLOGY ▶

SOFTWARE DEMOS, TUTORIALS AND REVIEWS ▶ TOP DESIGNERS

PROFILED ▶ DIGITAL ART SHOWCASED ▶ LATEST NEWS & TIPS ▶

Issue 8

on sale now

COMPLETE WITH MAC-&-PC CD-ROM & FREE 32-PAGE MAGAZINE



THE CHOOSEER

**MACFORMAT's comprehensive, up-to-date
buyer's guide to Mac-related products
that are worth your money, based on our own
independent, authoritative tests.**

Advice: Buying a Mac 116

Have you considered all the options open to you before you buy a new Mac?
To get the machine you really want, at the best possible price, take our advice.

Complete guide to Mac models 118

What processor is in your Mac? Can you run the latest software? Check here!

The MACFORMAT Buyer's Guide 126

The best Mac buying guide, based on our genuine independent tests.

How to be a smart buyer 126

Advice on your rights as a buyer, whether you shop by mail or in person.

Product News 128

Information on the very latest product releases and upgrades.

Mac user groups 137

Want a helping hand or just a chat? Contact other Mac enthusiasts near you.

Free Reader Ads 137

The best and biggest free marketplace for pre-loved Mac kit.





Purchasing power

You've made the big decision and are about to take steps towards buying a Mac. But where do you go from here? With so many options available, how do you choose the right one? Jonathan Ferman has some good advice.

Buying a Mac is very much like buying a car – there's a huge range to choose from, with differing prices and features, and it's likely to be one of the biggest purchases you'll make. So it's important to work out what you need, and choose wisely to make sure you won't be disappointed with your purchase.

The Mac market

A quick flick through the adverts in *MACFORMAT* will confirm that there is now a huge choice out there when it comes to buying a Mac. Thanks to the impact of Mac clone manufacturers, prices are becoming increasingly competitive, meaning you get more for your money. The market is focusing on specific "solutions" – Macs with bundled software aimed at home, office and creative users – potentially making buying decisions easier, at least for first-time buyers.

But what if you don't fit neatly into one of these pigeon-holes? What if you're replacing an old set-up and don't need to buy software, or a monitor, or perhaps RAM, all over again? Then you need to assess exactly what you're getting.

There is a massive choice of Macs and Mac compatibles available (see our comprehensive guide to Mac

models on page 118), and there are a few key things to look at when you're comparing them.

First, which processor is inside? All current Macs use the PowerPC 603e or the more powerful 604e. ("MP" or Multiple Processor models have more than one chip for even more power, but they're strictly for professionals and are only worth buying if you have MP-aware software that can make use of the second processor.)

Second, what is the processor "clock speed" (expressed in megahertz or MHz)? The higher the better, and speeds of 200MHz or even more are now common. Next is the amount of hard disk space available, expressed either in Mb (megabytes) or, increasingly, Gb (gigabytes – 1Gb is 1,024Mb). A gig may seem a lot, but you'll be surprised how quickly you fill it up, so go for the most you can afford.

Also, take a look at the amount of RAM that comes as standard – the more the better. The more RAM your Mac has, the faster it will go and the more applications you can open at once.

Future perfect

Computer technology is one of the fastest moving industries in the world. It sometimes seems that as soon as you buy a Mac, it's superseded by something faster, more

powerful, and even better value for money. If keeping up – and being able to run the day after tomorrow's software – is important to you, consider whether the Mac you want is upgradable.

In the mid-range and at the "professional" end of the Mac market, virtually all Macs are processor upgradable – the chip is mounted on a "daughter-board", a card that simply slots into the motherboard and can be replaced for another with a more powerful processor (or possibly a multiprocessor card, though these are a costly option).

Entry-level or home-user machines – those under about £2,000 – are not usually upgradable. They typically have the processor soldered onto the motherboard, a cheaper method of manufacture. Some machines at this level do come with processor upgradability, but this is still the exception rather than the rule. However, it is worth looking ahead; a processor-upgradable Mac is one of the best ways of future-proofing your investment.

Speaking of upgrading, another thing to look for is the number of expansion slots available. These enable you to add cards to accelerate your Mac's graphics performance, give you fast Ethernet networking, add faster SCSI devices such as hard drives, and so on. Of course this future-proofing comes at a price, and you must consider whether you're ever going to connect to an office network or need more than a gigabyte of RAM on board, and so forth.

Decision time

So how do you decide? Try following this three-point plan:

1. Why do you want it?

The main applications you use will dictate the hardware you need to run them. If you want a Mac for doing the occasional school newsletter, you need not incur the extra



The now discontinued Performa 630 was one of the most popular Macs ever, and if you can get one second-hand, it will serve you well for many years.

expense of professional desktop publishing software, and you don't need a top-of-the-range Mac. Make a list of the types of things you intend to do with your Mac – databases, games, word processing and so on. Then look at some of the packages you'd like to use, such as *Microsoft Word* or *FileMaker Pro*. Each package you want will come with a list of minimum specifications, so you will need to choose a Mac that at least meets these specifications, and preferably exceeds them.

This isn't the end of the story, though. No computer is cheap, so you'll want to be able to use your new Mac for a couple of years, at least. Try to imagine what you might be doing with your Mac two or three years down the line. Will you still be using it for the same tasks or even using the same software? The answer is probably not. Take, for example, the Internet. Only three years ago it was unusual to see a computer described as an Internet-ready machine; now this seems almost to be a prerequisite. So if you plan on using the Net, it's best to buy the necessary hardware



The PowerBase 240 (reviewed last issue) is one of the new breed of super-fast 603e-based Macs for the home and small office, but it doesn't have as much software bundled with it as Apple systems.



and software as part of your computer. Manufacturers and dealers can buy in bulk and include kit like a modem at excellent prices – and you save yourself the time and hassle of future installation.

2. How much can you spend?

Decide how much money you are willing to spend, and then stick to it if you possibly can. But you must also be realistic. If you intend to use powerful applications like *Photoshop* or modern 3D programs, you'll want a fast computer, lots of hard drive space and lots of RAM. Your budget should also allow for the fact that many Macs do not come with a monitor. This isn't necessarily a bad thing. First, it enables you to choose the monitor that you want, rather than having it dictated to you by the manufacturer. And second, you may already own an expensive monitor which you don't necessarily want to replace.

3. Where should you buy?

Draw up with a rough list of what you want within your budget. For example, you might be looking to buy not just a new Mac, but also a monitor, scanner, printer and some extra RAM. If you buy all these items from one place, you may get a discount or some other purchase incentive. Don't be afraid to ask – and do shop around!

Where should you buy? If you are a first-time buyer, service and quality of advice should be a high priority. Do some research (read the reviews in *MACFORMAT*, look in catalogues, and even browse the Internet, perhaps using the facilities of a library or a local cyber-café to get on-line), so you know what to look for. Try out the Mac you're interested in, if possible.

If you're a more experienced Mac owner, value for money may be top of your list. You'll have a shopping list and search through adverts for the best deal. However, simply bargain-hunting isn't right for everyone, especially if you use a Mac as part of your business. In this case, the after-sales service on offer will be a big factor in choosing where to buy. If disaster strikes and your new Mac won't work, you want a reseller who can support you. Computer downtime can be very costly and threaten the security of your business.

Buying second-hand

Of course you don't have to buy a brand new Mac, and you can often find a bargain in the second-hand market. The best place to start is with *MACFORMAT*'s Reader Ads section (on page 137 this issue). Buying second-hand gives you some

bargaining potential, and if someone is selling several different items of hardware or software they may also be willing to sell those items individually. If you do find a bargain in the adverts, contact the seller immediately to avoid disappointment. Ask why they are selling the equipment and whether it has any extras not mentioned in the advert, and discuss any delivery details. The main problem with buying this way is that you generally can't try before you buy, so it's best to have an idea of the specific machine you are looking for, as well as a price.

In order to fund your new Mac purchase, you could also consider selling your present Mac. Again, start off with our Reader Ads – after all, they are free and will reach the largest group of people interested in Macs and Mac-related purchases.

PowerMac or not?

If you already own a 68K (non-PowerMac) Mac, you will be aware of the increasing number of PowerMac-only programs now available – there are now over 2,500 of them on the market. Apple is actually good at supporting older machines, but the focus is now definitely on

PowerPC-based systems. You can't buy anything else new today. This is something worth bearing in mind if you're thinking about buying a second-hand 68K machine.

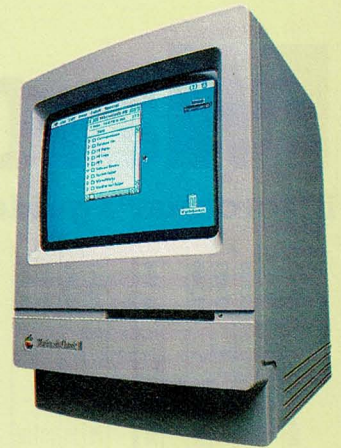
If you don't need to use PowerMac-only software or will have no use for the performance benefits that a PowerPC processor brings, there is no reason not to get a 68K machine. Just make sure that you don't fall into the trap of buying a machine and then having to upgrade the processor almost at once – there are no PowerPC upgrades for 68K machines currently available. They were generally a false economy anyway because your Mac would be slowed down by the limitations of its older hard drive, RAM and bus speed. (The bus speed of your Mac is the speed at which the motherboard runs. This affects how fast the processor can access RAM and data on your hard disk. PowerMacs run at between 40 and 50MHz, while 68K Macs run at between 16 and 33MHz.)

The best time to buy

It's one of the most common questions we receive here at *MACFORMAT* – when is the best time to buy a new Mac? The answer, for the most part, is *now*. The temptation is to wait just another few months for the latest Mac to be released. But playing the waiting game can be hazardous. The price/performance ratio will continue to improve, so theoretically you could wait forever for the best Mac to come along. The only time it might be worth waiting a few more months is if there is a radical new technology being implemented that you feel you

absolutely must have. But remember, if you choose to buy one of the very first machines featuring a new technology, you will be paying the equivalent of an early adopter's tax, subsidising the manufacturer's research and development.

A good trick – if you don't need the latest and greatest Mac, and you're in no great hurry to buy – is to wait until a manufacturer has just launched a new range. Any old



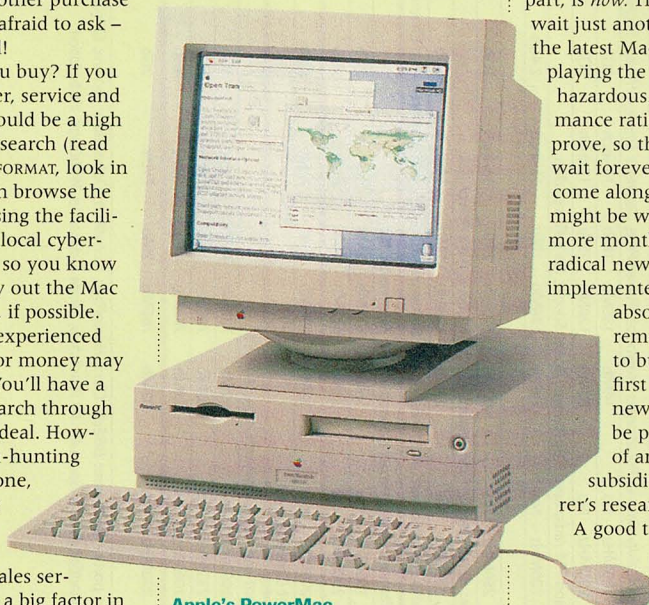
Laugh all you want, the trusty Classic II may be old, but it's always good for word-processing – we still use one!

machines will then be substantially reduced in price as retailers try to clear their rapidly dating stock.

Macs get upgraded and improved continually, but the range that has been released over the last few months is the best value for money we've ever seen. There are currently four PowerMacs that better the 200MHz barrier as standard. Increasing possibilities for upgrading machines means that Macs are becoming more desirable. Take, for instance, the PowerMac 7500: released over a year-and-a-half ago, it came with a 100MHz processor, but can be upgraded to 250MHz within seconds at half the cost of a new machine.

Mobile Mac computing has also improved considerably, not just in terms of speed but also reliability. The PowerBook 3400/240 is now heralded as "the fastest notebook on the planet" and can also serve as a very acceptable alternative to a desktop computer – at a price. Unless you really need portability, any desktop Mac is frankly much better value for money. (Watch for our review of the 3400/240 next issue.)

The increased competition in the Mac market has meant that while performance has increased, prices have in fact fallen. Apple has also promised that all machines currently shipping will be able to run Rhapsody, Apple's next generation operating system due to appear sometime in 1998. So what have you got to lose? If you're in the market for a new Mac, there's never been a better time to buy. **MF**



Apple's PowerMac 4400 offers a lot of power at a very low price. For serious speed on a budget, it's well worth considering.

Which Mac for your applications?

Today's Macs, even the most basic ones, can cope with just about any type of work you throw at them. However, if you are using a Mac professionally, you need to buy one that is powerful enough to produce the results you need quickly. The table below should give you a rough guide to the kind of system you need.

Application

Word processing/DTP
Graphic design
3D/video editing

Suitable Macs

Entry level: Performa, PowerMac 4400, Apus, StarMax. 16Mb of RAM minimum
Mid-range: PowerMac 7600 or equivalent clone. 32Mb RAM minimum
Professional: PowerMac 8600, 9600 or equivalent clone. 64Mb RAM minimum



Mac Facts

MACFORMAT's guide to every Mac on sale in the UK.

Apple Computer

Apple: 0800 127253		CPU	Speed	CPU upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
All PowerBook 1400s come with the following software: Apple Internet Connection Kit, Apple Remote Access, Claris Organiser, ClarisWorks, Route 66															
PowerBook 1400cs/117	PPC 603e	117MHz	No	12Mb	64Mb	1Mb	11.3-inch	750Mb	None	2 Type II PC card	None	None fitted	None fitted	75.3	£2,010
PowerBook 1400cs/117	PPC 603e	117MHz	No	16Mb	64Mb	1Mb	11.3-inch	750Mb	6x	2 Type II PC card	None	None fitted	None fitted	75.3	£2,357
PowerBook 1400cs/117	PPC 603e	117MHz	No	16Mb	64Mb	1Mb	11.3-inch	750Mb	6x	2 Type II PC card	None	None fitted	None fitted	75.3	£2,565
Extras: Colour StyleWriter 2200															
PowerBook 1400c/133	PPC 603e	133MHz	No	16Mb	64Mb	1Mb	11.3-inch	1Gb	6x	2 Type II PC card	128K	None	None fitted	75.3	£3,180
All PowerBook 3400s come with the following software: Apple Internet Connection Kit, Apple Location Manager, Apple Remote Access, Claris Organiser, WebWhacker															
PowerBook 3400c/180	PPC 603e	180MHz	No	16Mb	144Mb	1Mb	12.1-inch	1.3Gb	None	2 Type II PC card	256K	None	None fitted	76	£3,541
PowerBook 3400c/180	PPC 603e	180MHz	No	16Mb	144Mb	1Mb	12.1-inch	1.3Gb	12x	2 Type II PC card	256K	None	Ethernet	76	£3,846
PowerBook 3400c/200	PPC 603e	200MHz	No	16Mb	144Mb	1Mb	12.1-inch	2Gb	12x	2 Type II PC card	256K	None	Ethernet	76	£4,155
PowerBook 3400c/200	PPC 603e	200MHz	No	32Mb	144Mb	1Mb	12.1-inch	2Gb	12x	2 Type II PC card	256K	None	Ethernet	76	£4,374
Software: SoftWindows															
PowerBook 3400c/240	PPC 603e	240MHz	No	16Mb	144Mb	1Mb	12.1-inch	3Gb	12x	2 Type II PC card	256K	None	Ethernet	76	£5,075
PowerMac 4400/160	PPC 603e	200MHz	No	16Mb	96Mb	1Mb	Extra	1.2Gb	8x	3 PCI	None	None fitted	None fitted	75.3	£969
PowerMac 4400/160	PPC 603e	200MHz	No	16Mb	96Mb	1Mb	15-inch	1.2Gb	8x	3 PCI	None	None fitted	None fitted	75.3	£1,247
PowerMac 4400/200	PPC 603e	200MHz	No	16Mb	96Mb	1Mb	Extra	1.2Gb	8x	2 PCI	None	None fitted	None fitted	75.3	£1,108
PowerMac 4400/200	PPC 603e	200MHz	No	16Mb	96Mb	1Mb	15-inch	1.2Gb	8x	2 PCI	None	None fitted	None fitted	75.3	£1,385
PowerMac 4400/200	PPC 603e	200MHz	No	16Mb	96Mb	2Mb	Extra	2Gb	8x	2 PCI	256K	None	Ethernet	75.3	£1,317
PowerMac 4400/200	PPC 603e	200MHz	No	16Mb	96Mb	2Mb	15-inch	2Gb	8x	2 PCI	256K	None	Ethernet	75.3	£1,594
All themed PowerMacs (Family Mac [coded FM here], Home Office [HO], Creative Studio [CS]) come with the following software: Acrobat Reader, Apple Internet Connection Kit, Best of European Soccer, ClarisWorks, Descart, Full Throttle, Grolier Multimedia Encyclopedia, Lion King Activity Centre, Pocahontas Storybook, Power Pete, Sammy's Science House, Screen Scenes: The Hunchback of Notre Dame, Thinkin' Things 3, Ultimate Human Body															
PowerMac 5400/180 (FM)	PPC 603e	180MHz	No	16Mb	136Mb	1Mb	15-inch	2Gb	8x	1 PCI	None	None	Modem	75.5	£1,290
PowerMac 5500/225 (FM)	PPC 603e	225MHz	No	32Mb	128Mb	2Mb	15-inch	2Gb	12x	256K	1 PCI	None	Modem	75.5	£1,935
Extras: 2D and 3D accelerators. TV tuner and FM radio card • Software: Actua Soccer, Kai's Power Goo															
PowerMac 6400/200 (HO)	PPC 603e	200MHz	No	16Mb	136Mb	1Mb	15-inch	2.4Gb	8x	2 PCI	256K	None	Modem	75.5	£1,582
Software: ClarisImpact, Claris Organiser															
PowerMac 6500/250 (HO)	PPC 603e	250MHz	No	32Mb	128Mb	2Mb	15-inch	3Gb	12x	2 PCI	256K	None	Modem	75.5	£2,053
Extras: 2D and 3D accelerators • Software: Actua Soccer, ClarisImpact, Kai's Power Goo															
PowerMac 6500/275 (CS)	PPC 603e	275MHz	No	24Mb	128Mb	2Mb	15-inch	4Gb	12x	256K	2 PCI	None	Modem	75.5	£2,663
Extras: 2D and 3D accelerators. TV tuner and FM radio card • Software: 3D World, Actua Soccer, Avid Cinema, Cubasis AV, Dabblar, Kai's Power Goo, PageMill, PhotoDeluxe															
Both PowerMac 7300s come with the following software: Apple Internet Connection Kit, Microsoft Office															
PowerMac 7300/166	PPC 604e	166MHz	Yes	16Mb	512Mb	2Mb	Extra	2Gb	12x	256K	3 PCI	Ethernet	Ethernet	75.5	£2,067
PowerMac 7300/200	PPC 604e	200MHz	Yes	32Mb	512Mb	2Mb	Extra	2Gb	12x	256K	3 PCI	Ethernet	Ethernet	75.5	£2,483
PowerMac 8600/200	PPC 604e	200MHz	Yes	32Mb	512Mb	2Mb	Extra	2Gb	12x	256K	3 PCI	Ethernet	Ethernet	75.5	£2,691
Extras: Zip Drive • Software: Apple Internet Connection Kit															
All PowerMac 9600s come with an IMS graphics card and Apple Internet Connection Kit															
PowerMac 9600/200	PPC 604e	200MHz	Yes	32Mb	768Mb	4Mb	Extra	4Gb	12x	512K	6 PCI	Ethernet	Ethernet	75.5	£3,107
PowerMac 9600/233	PPC 604e	233MHz	Yes	32Mb	768Mb	4Mb	Extra	4Gb	12x	512K	6 PCI	Ethernet	Ethernet	75.5	£3,523
PowerMac 9600/200 MP	2 x PPC 604e	200MHz	Yes	32Mb	768Mb	4Mb	Extra	4Gb	12x	512K	6 PCI	Ethernet	Ethernet	75.5	£3,925
PowerMac Web Authoring Solution	PPC 604e	200MHz	Yes	32Mb	768Mb	2Mb	Extra	2Gb	12x	256K	3 PCI	Ethernet	Ethernet	75.5	£3,619
Extras: Zip Drive, PAL/NTSC/VS-Video video ports • Software: BBEdit, Claris HomePage, ColorWeb, Debabelizer Toolbox, Director, Discovering Programming with Java, GraphicConverter, HexWeb, Movie Cleaner Pro, Netscape Navigator, Painter, Shockwave, SoundEdit Pro 16, Specular 3D Workshop, Strata Videoshop, WebBurst, WebMotion															

What to look out for

CPU: what type of processor is fitted? All Macs now use a PowerPC chip.

Speed: what's the clock speed?

CPU upgrade: is the processor mounted on a daughterboard, so that you can upgrade it later?

Computer Warehouse

MCM: 0171 724 4104		CPU	Speed	CPU upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
New York	PPC 604e	200MHz	No	16Mb	160Mb	2Mb	Extra	Extra	1.2Gb	16x	256K	3 PCI	None fitted	75.5	£1,761
Manhattan	PPC 604e	200MHz	No	64Mb	160Mb	2Mb	Extra	Extra	3.8Gb	16x	256K	5 PCI	None fitted	75.5	£1,996
Hollywood	PPC 604e	200MHz	No	64Mb	160Mb	2Mb	Extra	Extra	3.8Gb	16x	256K	5 PCI	None fitted	75.5	£2,349
Extras: Miros DC-20 video card, Zip Drive • Software: mTropolis, Premiere LE															

Dabs

Dabs Direct: 0800 680000

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
PPC 604e	160MHz	Yes	16Mb	160Mb	2Mb	Extra	2.1Mb	16x	256K	3 PCI	None fitted	76	£1,350
Picasso 160	160MHz	Yes	32Mb	160Mb	4Mb	Extra	2.5Mb	16x	256K	3 PCI	None fitted	76	£1,526
Picasso 200	200MHz	Yes	32Mb	160Mb	2Mb	Extra	2.5Mb	16x	256K	3 PCI	None fitted	76	£1,644
Picasso Master 200	200MHz	Yes	64Mb	160Mb	4Mb	Extra	3.8Mb	16x	256K	3 PCI	None fitted	76	£1,761

DayStar

CU: 0191 357 5857

Both DayStar systems come with multiple-processor software extensions

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
Genesis MP720+	180MHz	Yes	0Mb	1.5Gb	None	Extra	0Mb	8x	512K	6 PCI	Ethernet	76	£8,224
Genesis MP800+	200MHz	Yes	0Mb	1.5Gb	None	Extra	0Mb	8x	512K	6 PCI	Ethernet	76	£9,399

Motorola

Principal: 01256 704000

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
StarMax 3180 Desktop	180MHz	No	16Mb	160Mb	1Mb	Extra	1.2Gb	8x	256K	3 PCI	Modem	76	£939
StarMax 3180 MiniTower	180MHz	No	32Mb	160Mb	1Mb	Extra	2.5Gb	8x	256K	5 PCI	Modem	76	£1,056
StarMax 3200 Desktop	200MHz	No	16Mb	160Mb	1Mb	Extra	1.2Gb	8x	256K	3 PCI	None fitted	76	£1,291
StarMax 3200 MiniTower	200MHz	No	32Mb	160Mb	1Mb	Extra	2.5Gb	8x	256K	5 PCI	Modem	76	£1,468
StarMax 3240 MiniTower Plus	240MHz	No	32Mb	160Mb	2Mb	Extra	2.5Gb	8x	512K	5 PCI	Modem	76	£1,879
StarMax 4160 Desktop	160MHz	No	16Mb	160Mb	2Mb	Extra	1.2Gb	8x	512K	3 PCI	Modem	76	£1,526
StarMax 4160 MiniTower	160MHz	No	32Mb	160Mb	2Mb	Extra	2.5Gb	8x	512K	5 PCI	Modem	76	£1,761
StarMax 4200 Desktop	200MHz	No	16Mb	160Mb	2Mb	Extra	1.2Gb	8x	512K	3 PCI	Modem	76	£2,173
StarMax 4200 MiniTower	200MHz	No	32Mb	160Mb	2Mb	Extra	2.5Gb	8x	512K	5 PCI	Ethernet	76	£2,290

Power Computing

MCMI: 0171 724 4104

All Power 100 systems come with the following software: CD-ROM Toolkit, ClarisWorks, Grolier Multimedia Encyclopedia, Hard Disk Toolkit, Now Up-to-Date

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
Power 100 Mini Tower	100MHz	No	8Mb	256Mb	1Mb	None	1Gb	4x	256K	3 NuBus	None fitted	75.3	£821
Power 100 Mini Tower	100MHz	No	16Mb	256Mb	1Mb	None	1Gb	4x	256K	3 NuBus	None fitted	75.3	£857

All PowerBase systems come with a built-in 3D graphics acceleration system based on 2Mb DRAM, plus the following software: CD-ROM Toolkit, ClarisWorks, Grolier Multimedia Encyclopedia, Hard Disk Toolkit, Now Contact, Now Up-to-Date, Quicken SE

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
PowerBase 180 Low Profile	180MHz	Yes	16Mb	160Mb	Acc	Extra	1.2Gb	8x	256K	3 PCI	None fitted	75.3	£1,174
PowerBase 200 Low Profile	200MHz	Yes	16Mb	160Mb	Acc	Extra	1.2Gb	8x	256K	3 PCI	None fitted	75.3	£1,291
PowerBase 240 Mini Tower	240MHz	Yes	16Mb	160Mb	Acc	Extra	1.2Gb	8x	256K	3 PCI	None fitted	75.3	£1,526

All PowerCenter systems come with the following software: CD-ROM Toolkit, ClarisWorks, Grolier Multimedia Encyclopedia, Hard Disk Toolkit, Now Contact, Now Up-to-Date, Quicken SE

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
PowerCenter 150 Low Profile	150MHz	Yes	16Mb	256Mb	1Mb	Extra	2Gb	8x	512K	3 PCI	None fitted	75.3	£1,291
PowerCenter 150 Mini Tower	150MHz	Yes	16Mb	256Mb	1Mb	Extra	2Gb	8x	512K	3 PCI	None fitted	75.3	£1,585
PowerCenter 180 Mini Tower	180MHz	Yes	16Mb	512Mb	1Mb	Extra	2Gb	8x	512K	3 PCI	None fitted	75.3	£1,879
PowerCenter Pro 210 Low Profile	210MHz	Yes	16Mb	512Mb	2Mb	Extra	2Gb	16x	1Mb	3 PCI	Ethernet	76	£2,114

Extras: ATI 3D RAGE acceleration card

All PowerTower Pro systems come with the following software: Animals, CD-ROM Toolkit, ClarisWorks, Grolier Multimedia Encyclopedia, Hard Disk Toolkit, Now Up-to-Date, Now Utilities, Speed Doubler, US Atlas, World Atlas

CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
PowerTower Pro 200 Lite	200MHz	Yes	16Mb	1Gb	2Mb	Extra	2Gb	8x	1Mb	6 PCI	None fitted	75.3	£2,462
PowerTower Pro 225 Lite	225MHz	Yes	16Mb	1Gb	2Mb	Extra	2Gb	8x	1Mb	6 PCI	None fitted	75.3	£2,579
PowerTower Pro 225	225MHz	Yes	32Mb	1Gb	Card	Extra	2Gb	8x	1Mb	6 PCI	None fitted	75.3	£2,814
PowerTower Pro 225 MP	225MHz	Yes	32Mb	1Gb	Card	Extra	2Gb	8x	1Mb	6 PCI	None fitted	75.3	£4,107



Mac specs



RAM: how much RAM is installed?

Max RAM: ... and how much could you install in total?

Video RAM: how much extra RAM is devoted to displaying the screen image? Look out for graphics cards.

Monitor: is a monitor included in the machine's price?

HD: how big is the hard drive?

CD-ROM: is there a CD-ROM drive? If so, what speed is it?

Cache: is there a Level 2 cache for extra speed, and what size is it?

Expansion: what are the main expansion slots and how many are there? Choose between PCI (the most common by far now), NuBus, PDS, and PC Card for PowerBooks.

Comms: many Macs will include a built-in modem, while some business Macs will offer Ethernet for fast networking.

Mac OS: what version of the Mac OS is included?

Price: the estimated street price including VAT. Check the adverts in this issue for the best prices.



Mac Facts continued

Umax

IMC: 01344 871344

All Apus systems come with the following software: CD-ROM Toolkit, ClarisWorks, Extreme 3D, Fontographer, FreeHand, Hard Disk Toolkit, Internet Ready CD, TechTool Pro, xRes

	CPU	Speed	upgrade	RAM	Max RAM	Video RAM	Monitor	HD	CD-ROM	Cache	Expansion	Comms	Mac OS	Price
Apus 2000/160	PPC 603e	160MHz	Yes	16Mb	144Mb	1Mb	Extra	1.2Gb	8x	None	2 PCI	None fitted	76.1	£875
Apus 2000/160	PPC 603e	160MHz	Yes	16Mb	144Mb	1Mb	Extra	1.2Gb	8x	None	2 PCI	Ethernet	76.1	£939
Apus 2000AV	PPC 603e	160MHz	Yes	32Mb	144Mb	1Mb	Extra	1.2Gb	8x	None	2 PCI	Modem	76.1	£1,146
Extras: ATI Xclaim VR graphics card, video input and output														
Apus 3000/200	PPC 603e	200MHz	Yes	16Mb	144Mb	1Mb	Extra	2.1Gb	8x	256K	3 PCI	None fitted	76.1	£1,204
Apus 3000 Plus	PPC 603e	200MHz	Yes	16Mb	144Mb	1Mb	Extra	2.1Gb	8x	256K	3 PCI	Ethernet	76.1	£1,340
Extras: ATI Xclaim 3D graphics card														
Apus 3000/240	PPC 603e	240MHz	Yes	16Mb	144Mb	1Mb	Extra	2.1Gb	8x	256K	3 PCI	Ethernet	76.1	£1,528
Apus 3000/240AV	PPC 603e	240MHz	Yes	16Mb	144Mb	1Mb	Extra	2.1Gb	8x	256K	3 PCI	Ethernet	76.1	£1,733
Extras: ATI Xclaim VR graphics card, video input and output														
Apus Movie Maker	PPC 603e	200MHz	Yes	32Mb	144Mb	1Mb	15-inch	2.1Gb	8x	256K	3 PCI	Modem	76.1	£2,139
Extras: ATI Xclaim 3D graphics card, Miro video card, Umax scanner • Software: Photoshop LE, Premiere LE														
Apus Multimedia Studio	PPC 603e	200MHz	Yes	32Mb	144Mb	1Mb	15-inch	2.1Gb	8x	256K	3 PCI	Modem	76.1	£2,673
Extras: 6x CD-recordable drive, Umax scanner • Software: Director Multimedia Studio, Photoshop LE, Toast Pro														

All Pulsars come with an ATI Xclaim 3D graphics card and the following software: CD-ROM Toolkit, ClarisWorks, Extreme 3D, Fontographer, FreeHand, Hard Disk Toolkit, Internet Ready CD, xRes

Pulsar 200	PPC 604e	200MHz	Yes	32Mb	1Gb	Card	Extra	2Gb	8x	512K	6 PCI	Ethernet	76.1	£2,556
Pulsar 225	PPC 604e	225MHz	Yes	32Mb	1Gb	Card	Extra	2Gb	8x	512K	6 PCI	Ethernet	76.1	£2,938
Pulsar 200 DP	2 x PPC 604e	200MHz	Yes	32Mb	1Gb	Card	Extra	2Gb	8x	512K	6 PCI	Ethernet	76.1	£3,408

Mac Facts: no longer available

These Macs are no longer part of their respective companies' ranges, but you'll still find many models quite easily - see the mail order adverts this issue for recently-discontinued Macs, and browse through our Reader Ads (page 137) for bargains across the Mac generations. You can also use this chart to see if a program we've reviewed this issue will work on a Mac you own.

Model	CPU	Speed	RAM	Max RAM	Expansion	FPU	Mac OS
Apple Compact Macs							
Mac 128K	68000	8MHz	128K	not exp	None	No	≤7.0?
Mac 512K	68000	8MHz	512K	not exp	None	No	≤7.0?
Mac Plus	68000	8MHz	1Mb	4Mb	None	No	≤7.5.5
Mac SE	68000	8MHz	1Mb	4Mb	1 PDS	No	≤7.5.5
Mac Classic	68000	8MHz	1Mb	4Mb	None	No	≤7.5.5
Mac SE/30	68030	16MHz	1Mb	128Mb	1 PDS	Yes	≤7.6
Classic II	68030	16MHz	2Mb	10Mb	None	Optional	≤7.6
Color Classic	68030	16MHz	2Mb	10Mb	1 LC-PDS	Optional	≤7.6

What to look out for

If you don't own a current Mac, our table will help you check whether a program we've reviewed this issue will work on your model.

Model	CPU	Speed	RAM	Max RAM	Expansion	FPU	Mac OS
PowerMac 7500/100	PPC 601	100MHz	16Mb	512Mb	3 PCI, 1 PD	Yes	≤7.6
PowerMac 8100/100	PPC 601	100MHz	8Mb	264Mb	3 NuBus, 1 PDS	Yes	≤7.6
PowerMac 8100/110	PPC 601	110MHz	8Mb	264Mb	3 NuBus, 1 PDS	Yes	≤7.6
PowerMac 8200/120	PPC 601	120MHz	16Mb	256Mb	3 PCI	Yes	≤7.6
PowerMac 8500/120	PPC 604	120MHz	16Mb	512Mb	3 PCI, 1 PD	Yes	≤7.6
PowerMac 9500/120	PPC 604	120MHz	16Mb	768Mb	6 PCI, 1 PD	Yes	≤7.6
PowerMac 9500/132	PPC 604	132MHz	16Mb	768Mb	6 PCI, 1 PD	Yes	≤7.6
PowerMac 7600/132	PPC 604e	180MHz	16Mb	512Mb	3 PCI	Yes	≤7.6
PowerMac 8500/180	PPC 604e	180MHz	16Mb	512Mb	3 PCI	Yes	≤7.6
PowerMac 9500/200	PPC 604e	200MHz	32Mb	768Mb	6 PCI	Yes	≤7.6
PowerMac 9500/180 MP	2 x PPC 604e	180MHz	32Mb	768Mb	6 PCI	Yes	≤7.6



CPU: what type of processor is fitted?

Speed: what's the clock speed?

RAM: how much RAM is installed?

Max RAM: ... and how much could you install in total?

Expansion: what are the main expansion slots and how many are there? Choose between PCI (the most common by far now), NuBus, PDS, and PC Cards for PowerBooks.

FPU: the Floating Point Unit speeds up complex maths work like 3D graphics. All PowerPC chips have a built-in FPU.

Mac OS: what is the latest version of the Mac OS your Mac can run? Some older Macs are not capable of running Mac OS 7.6, for example. (Note that you'll still need at least 8Mb of RAM to run the latest Mac OS, even if your processor's up to the job.)

Model	CPU	Speed	RAM	Max RAM	Expansion	FPU	Mac OS
DayStar Mac-compatibles							
Genesis MP600	4 x PPC 604e	150MHz	0Mb	1.5Gb	6 PCI	Yes	≤7.6
Motorola Mac-compatibles							
StarMax 3160	PPC 603e	160MHz	16Mb	160Mb	3 PCI,	Yes	≤7.5.5
Power Computing Mac-compatibles							
PowerCenter 120	PPC 604	120MHz	16Mb	256Mb	3 PCI	Yes	≤7.6
PowerCenter 132	PPC 604	132MHz	16Mb	256Mb	3 PCI	Yes	≤7.6
PowerWave 150	PPC 604	150MHz	16Mb	512Mb	6 PCI	Yes	≤7.6
PowerCenter 166	PPC 604	166MHz	16Mb	512Mb	3 PCI	Yes	≤7.6
PowerTower 200	PPC 604	200MHz	16Mb	512Mb	3 PCI	Yes	≤7.6
Umax Mac-compatibles							
Pulsar 150	PPC 604	150MHz	16Mb	1Gb	6 PCI	Yes	≤7.6
Pulsar 166	PPC 604e	166MHz	16Mb	1Gb	6 PCI	Yes	≤7.6
Apple Portables							
Macintosh Portable	68000	16MHz	2Mb	9Mb	Modem slot	No	≤7.5.5
PowerBook 100	68000	16MHz	4Mb	8Mb	Modem slot	No	≤7.5.5
PowerBook 140	68030	16MHz	4Mb	8Mb	Modem slot	No	≤7.6
PowerBook 170	68030	25MHz	4Mb	8Mb	Modem slot	Yes	≤7.6
PowerBook 145	68030	25MHz	4Mb	8Mb	Modem slot	No	≤7.6
PowerBook 145b	68030	25MHz	4Mb	8Mb	Modem slot	No	≤7.6
PowerBook 160	68030	25MHz	4Mb	14Mb	Modem slot	No	≤7.6
PowerBook 150	68030	33MHz	4Mb	40Mb	Modem slot	No	≤7.6
PowerBook 165c	68030	33MHz	4Mb	14Mb	Modem slot	No	≤7.6
PowerBook 180	68030	33MHz	4Mb	14Mb	Modem slot	Yes	≤7.6
PowerBook 180c	68030	33MHz	4Mb	14Mb	Modem slot	Yes	≤7.6
PowerBook 165	68030	33MHz	4Mb	14Mb	Modem slot	No	≤7.6
PowerBook 520	68LC040	25MHz	4Mb	36Mb	Modem slot	Upgrade	≤7.6
PowerBook 520c	68LC040	25MHz	4Mb	36Mb	Modem slot	Upgrade	≤7.6
PowerBook 540	68LC040	33MHz	4Mb	36Mb	Modem slot	No	≤7.6
PowerBook 540c	68LC040	33MHz	4Mb	36Mb	Modem slot	No	≤7.6
PowerBook 190	68LC040	33MHz	8Mb	40Mb	2 PC card	No	≤7.6
PowerBook 190cs	68LC040	33MHz	8Mb	40Mb	2 PC card	No	≤7.6
PowerBook 5300	PPC 603e	100MHz	8Mb	56Mb	2 PC card	Yes	≤7.6
PowerBook 5300c	PPC 603e	100MHz	8Mb	64Mb	2 PC card	Yes	≤7.6
PowerBook 5300ce	PPC 603e	100MHz	8Mb	64Mb	2 PC card	Yes	≤7.6
PowerBook 5300cs	PPC 603e	100MHz	8Mb	64Mb	2 PC card	Yes	≤7.6
Apple Duos							
PowerBook Duo 210	68030	25MHz	4Mb	32Mb	Modem slot	With Dock	≤7.6
PowerBook Duo 230	68030	33MHz	4Mb	32Mb	Modem slot	With Dock	≤7.6
PowerBook Duo 250	68030	33MHz	4Mb	32Mb	Modem slot	With Dock	≤7.6
PowerBook Duo 270c	68030	33MHz	4Mb	32Mb	Modem slot	With Dock	≤7.6
PowerBook Duo 280	68LC040	33MHz	4Mb	40Mb	Modem slot	No	≤7.6
PowerBook Duo 280c	68LC040	33MHz	4Mb	40Mb	Modem slot	No	≤7.6
PowerBook Duo 2300c	PPC 603e	100MHz	8Mb	56Mb	Modem slot	Yes	≤7.6
Apple Duo Docking Stations							
PowerBook Duo MiniDock	-	-	-	-	None	No	N/A
PowerBook Duo Dock	-	-	-	-	2 NuBus	Optional	N/A
PowerBook Duo Dock II	-	-	-	-	2 NuBus	Yes	N/A
PowerBook Duo Dock Plus	-	-	-	-	2 NuBus	No	N/A

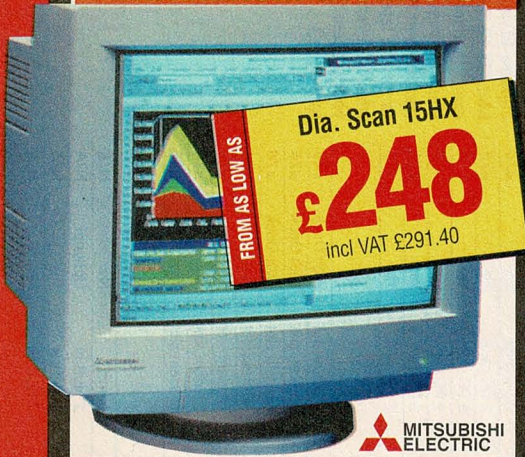
Model	CPU	Speed	RAM	Max RAM	Expansion	FPU	Mac OS
Apple Mac II Series							
Mac II	68020	16MHz	1Mb	68Mb	6 NuBus	Yes	≤7.5.5
Mac Ix	68030	16MHz	1Mb	128Mb	6 NuBus	Yes	≤7.6
Mac Ixcx	68030	16MHz	1Mb	128Mb	3 NuBus	Yes	≤7.6
Mac Ixvi	68030	16MHz	4Mb	68Mb	3 NuBus	Optional	≤7.6
Mac Ixli	68030	20MHz	1Mb	65Mb	1 NuBus/PDS	Optional	≤7.6
Mac Ixlii	68030	25MHz	1Mb	128Mb	3 NuBus	Yes	≤7.6
Mac Ixlv	68030	32MHz	4Mb	68Mb	3 NuBus	Yes	≤7.6
Mac Ixlvx	68030	40MHz	1Mb	128Mb	6 NuBus, 1 PDS	Yes	≤7.6
Apple LCs							
Mac LC	68020	16MHz	2Mb	10Mb	1 LC-PDS	Optional	≤7.5.5
Mac LC II	68030	16MHz	4Mb	10Mb	1 LC-PDS	Upgrade	≤7.6
Mac LC III	68030	25MHz	4Mb	36Mb	1 LC-PDS	Optional	≤7.6
Apple Centris series							
Centris 610	68LC040	20MHz	4Mb	68Mb	1 NuBus/PDS	Upgrade	≤7.6
Centris 650	68040	25MHz	4Mb	136Mb	3 NuBus, 1 PDS	Yes	≤7.6
Apple Performas (non-PowerPC)							
Performa 200	68030	16MHz	2Mb	10Mb	None	Optional	≤7.6
Performa 400	68030	16MHz	4Mb	10Mb	1 LC-PDS	Upgrade	≤7.6
Performa 450	68030	25MHz	4Mb	36Mb	1 LC-PDS	Optional	≤7.6
Performa 475 (= LC475)	68LC040	25MHz	4Mb	36Mb	1 LC-PDS	Upgrade	≤7.6
Performa 600	68030	32MHz	4Mb	68Mb	3 NuBus	Optional	≤7.6
Performa 630 (= LC630)	68LC040	33MHz	4Mb	36Mb	1 LC-PDS	Upgrade	≤7.6
Apple Quadra series							
Quadra 610	68040	25MHz	4Mb	68Mb	1 NuBus/PDS	Yes	≤7.6
Quadra 660AV	68040	25MHz	8Mb	68Mb	1 NuBus/PDS	Yes	≤7.6
Quadra 700	68040	25MHz	4Mb	64Mb	2 NuBus, 1 PDS	Yes	≤7.6
Quadra 900	68040	25MHz	4Mb	256Mb	5 NuBus, 1 PDS	Yes	≤7.6
Quadra 850	68040	33MHz	4Mb	136Mb	3 NuBus, 1 PDS	Yes	≤7.6
Quadra 800	68040	33MHz	8Mb	146Mb	3 NuBus, 1 PDS	Yes	≤7.6
Quadra 950	68040	33MHz	8Mb	256Mb	5 NuBus, 1 PDS	Yes	≤7.6
Quadra 840AV	68040	40MHz	8Mb	128Mb	3 NuBus	Yes	≤7.6
Apple PowerPC Performas							
Performa 5200	PPC 603	75MHz	8Mb	64Mb	1 PDS	Yes	≤7.6
Performa 5260/100	PPC 603e	100MHz	12Mb	64Mb	1 PDS	Yes	≤7.6
Performa 5260/120	PPC 603e	120MHz	12Mb	64Mb	1 PDS	Yes	≤7.6
Performa 5300	PPC 603e	100MHz	8Mb	64Mb	1 PDS	Yes	≤7.6
Performa 5400/160	PPC 603e	160MHz	16Mb	136Mb	1 PDS	Yes	≤7.6
Performa 6200	PPC 603e	75MHz	8Mb	64Mb	1 PDS	Yes	≤7.6
Performa 6400/180	PPC 603e	180MHz	16Mb	136Mb	1 PCI	Yes	≤7.6
Performa 6400/200	PPC 603e	200MHz	16Mb	136Mb	1 PCI	Yes	≤7.6
Apple Power Macintoshes							
PowerMac 6100/60	PPC 601	60MHz	8Mb	72Mb	1 NuBus/PDS	Yes	≤7.6
PowerMac 6100/66	PPC 601	66MHz	8Mb	72Mb	1 NuBus/PDS	Yes	≤7.6
PowerMac 7100/66	PPC 601	66MHz	8Mb	136Mb	3 NuBus, 1 PDS	Yes	≤7.6
PowerMac 7200/75	PPC 601	75MHz	16Mb	256Mb	3 PCI	Yes	≤7.6
PowerMac 7100/80	PPC 601	80MHz	8Mb	136Mb	3 NuBus, 1 PDS	Yes	≤7.6
PowerMac 8100/80	PPC 601	80MHz	8Mb	264Mb	3 NuBus, 1 PDS	Yes	≤7.6
PowerMac 7200/90	PPC 601	90MHz	16Mb	256Mb	3 PCI	Yes	≤7.6



The Lowest prices

Best Selling MONITORS

Mitsubishi Monitors



Diamond Scan 15HX VMIT15HX
15in/1024x768/FST **£248**

Diamond Pro 67TXM VMIT67TXM
17in/1280x1024/Diamondtron **£418**

Diamond Pro 87TXM VMIT87TXM
17in/1280x1024/Diamondtron **£474**

Diamond Pro 91TXM VMIT91TXM
21in/1600x1280/Diamondtron **£988**

Formac Monitors & Cards

Pro Media 20 Card* VPNGA60-1
2Mb VRAM/832x624@75Hz **HALF PRICE £99**

Provision 2/40 VPNGA30-2
4Mb VRAM/1152x870@80Hz **£194**

Provision 4/60 VPNGA40-3
4Mb VRAM/1152x87@100Hz **£288**

ProNitron F17 VPN1787-1
17in/1280x102@70Hz **£338**

ProNitron 17/400 VPN1785-1
17in/1280x1024@75Hz **£448**



Formac UK

*Pro Media 20 Card only valid until 30/6/97

Viewsonic Monitors



Viewsonic 14E641 VVS14E641
14in/800x600 **£148**

Viewsonic 15GS VVS15GS
15in/1024x768 **£234**

Viewsonic G800 VVSG800
20in/1600x1280 **£738**

Apple Monitors



Multiscan 1710 Trin VM4588B/A
17in/1280x1024@75Hz **£498**

Multiscan 1710AV Trin VM4589B/A
17in/1600x1280@75Hz **£548**

BARGAIN BASEMENT

FULL
manufacturers
warranties
apply

Description	Code	Was	Now
Global Village Teleport Modem	MGV33.6D	£119.00	£99.00
AAUI Thinnet Transceiver	ET2D	£24.95	£17.98
Thinnet Card for Comm Slot	ETNTCS	£58.99	£49.99
Twisted Pair LC Ethernet Card	ETWPLC	£52.00	£45.00
MicroPrint 12 Device Hardware	EMP12D	£239.00	£219.00
100Mb Iomega Zip Drive inc. disk	D100ZIPD	£95.00	£89.00
100Mb Iomega Parallel Zip Drive	DZIPPD	£95.00	£89.00
Iomega Zip Cartridge	DZIPCD	£9.99	£8.99

Some items may be ex-demonstration units, or have damaged packaging and/or missing manuals. Full manufacturers warranties apply. Limited stocks. First come first served.

*Our Price Promise

We constantly monitor competitors prices to make sure that we can offer you the best value for money deals around. Our Price Promise policy is to match or beat competitors prices for any product we stock. This is provided the product is new and is the same model, specification and version, is supported to the same post-sale levels we offer, is in stock, has the same warranty and is available from the competitor on the same day of purchase. In some cases where margins are particularly tight we may require to see a written quotation from the other party. Unfortunately, the price promise is not applicable to sales where manufacturer backed Corporate or Educational discounts are quoted.

Best Selling PRINTERS

HP Printers



hp HEWLETT®
PACKARD

DeskWriter 870cxi Col Inkjet PC4555A **£288**

LaserWriter 4MV A3 Laser PC3167A **£2548**

LaserWriter 6MP A3 Laser PC3982A **£548**

Apple Printers



Colour Stylewriter 1500 PM4428BA **£148**

Colour Stylewriter 2500 PM4236B **£218**

Laserwriter 4/600PS PM3920B/A **£568**

Laserwriter 12/640PS PM3978D/A **£898**



on any Mac product!

Best Selling SYSTEMS



PowerMac 5500/225

- 225MHz PPC 603e processor (256k L2 cache)
- 32Mb RAM (upto 128Mb)
- 2Gb IDE Drive
- Internal 12xCDRom
- Optional Ethernet
- 1 PCI expansion slots
- 2Mb VRAM
- Mouse & keyboard

NEW!

Apple 5500/225
£1498
incl VAT £1760.15

PowerMac 4400/200

Apple 4400/200
£868
incl VAT £1019.90



- 200MHz PPC 603e processor (optional 256k L2 cache)
- 16Mb RAM (upto 96Mb)
- 1.2Gb or 2Gb Drive
- Internal 8xCDRom
- Optional Ethernet
- 3 PCI expansion slots
- 1Mb or 2Mb VRAM (upto 4Mb) supports 1280x1024 pixels
- Mouse & keyboard

PowerMac 7300

Business Rental
Pay a deposit of only **£188.00**
As low as **£9.11** per week
nothing to pay for 3 months!
OR
Personal Finance



Apple 7300/166
£1598
incl VAT £1877.65

- 166 or 200MHz PPC 604e with 256k L2 cache
- 16 or 32Mb RAM (upto 512Mb)
- Fast 2Gb Hard Drive
- 2Mb Fast 64bit VRAM upto 4Mb (1280x1024)
- Fast SCSI (up to 10Mb/s)
- Internal 12 x CD Rom
- 3 PCI expansion slots
- Built-in Ethernet
- 256k Level 2 cache
- Apple Internet Kit
- Mouse & keyboard

PowerMac 5400/180 CM5624B/A
16/2.0Gb/8xCD **£998**

PowerMac 5500/225 CM5623B/A
32/2.0Gb/12xCD **£1498**

PowerMac 6400/200 CSB5193B/A
16/2.4Gb/8xCD **£1248**

PowerMac 6500/250 CSB5618B/A
32/3.0Gb/12xCD **£1598**

PowerMac 6500/275 CSB5617B/A
32/4.0Gb/12xCD **£2098**

PowerMac 4400/200 CM5766BA
16/1.2Gb/8xCD **£868**

PowerMac 4400/200+ CM5842B/A
16/2Gb/8xCD/L2/ENet **£998**

PowerMac 7300/166 CM5542B/A
16/2Gb/12xCD/L2/ENet **£1598**

PowerMac 7300/200 CM5543B/A
32/2Gb/12xCD/L2/ENet **£1979**

PowerMac 8600

- 200MHz PPC 604e with 256k L2 cache
- Fast 2Gb Hard Drive
- Internal 100Mb Zip Drive
- Built-in Ethernet
- Mouse & keyboard

Apple 8600
£2098
incl VAT £2465.15

PowerMac 8600/200 CM5453B/A
32/2Gb/12xCD/L2/ENet **£2098**

PowerMac 9600

- One or Two 200MHz PPC 604e with 512k L2 cache
- Fast 4Gb Drive
- Built-in Ethernet
- Apple Internet Kit
- Mouse & keyboard

Apple 9600
£2458
incl VAT £2888.15

PowerMac 9600/200 CM5456B/A
32/2Gb/12xCD/L2/ENet **£2458**

PowerMac 9600/200MP CM4952B/A
32/2Gb/12xCD/L2/ENet **£3098**

Powerbooks



PB 3400c/200
£3448
incl VAT £4051.40

Powerbook 1400 prices down by 40%

Powerbook 1400cs/117 CM5287B/A
12/750/11.3" Dual Scan **£998**

Powerbook 1400c/133 CM5576B/A
16/1Gb/CD/L2/11.3" Active **£1998**

Powerbook 3400c/200 CM5885B/A
32/2Gb/CD/L2/ENet/12.1" Active **£3448**

- Spec for 3400c/200 only
- 180, 200 or 240MHz 603e with 256k L2 cache
 - 16Mb or 32Mb RAM (up to 144Mb)
 - Up to 3Gb HD
 - 12.1in SVGA active-matrix
 - Up to 12 speed CD Rom
 - PC Card expansion slots
 - Optional ENet

Umax Systems

UMAX

Apus 2000/160 CAPUS2000/160
16/1.2Gb/8xCD **£744**

Apus 3000/200 CAPUS3000/200
16/2Gb/8xCD/L2 **£1024**

Pulsar 200 CUMAX200
16/2Gb/8xCD/L2/ENet **£2174**

Pulsar 225 CUMAX225
16/2Gb/8xCD/L2/ENet **£2598**

To Order Call

Opening Hours

Mon - Fri: 9am - 6pm
Saturday: 9.30pm - 1pm

A 24hrs answering service operates outside these hours.

01784 477477

All prices are for business users and exclude VAT. Next Day delivery from £9 or 48 hour delivery from £5.50. Prices and descriptions are correct at time of going to press, but may change. E&OE. All orders are subject to our terms and conditions which are available on request. We may make our mailing list available to other companies, please let us know if you would like to be excluded. © Performance Direct 1997.



NO credit card surcharges

Price Promise
We will MATCH or BEAT ANY price!
See details opposite

Please quote code MACF07 when ordering

Price Promise
We will MATCH
or BEAT ANY
price!
See details on
previous page

The Lowest prices

Best Selling MEDIA



Verbatim Datalife + CDR	M91224
DatalifePlus 74min	£3.99
Verbatim 230Mb Opt Disk	M90672
3.5" Optical Disk	£6.99
Verbatim 2.6Mb Opt Disk	M91204
5.25" Optical Disk	£39.99
Verbatim 90m DAT Tape	M88195
4mm 90m DAT Tape	£4.49
Verbatim 120m DAT Tape	M89547
4mm 120m DAT Tape	£12.49
100Mb Zip Disk	D100ZPCART
Iomega 100Mb Zip Disk	£9.69
1Gb Iomega Jaz Cart	D1JAZCART
1Gb Jaz Disk	£58.00
88Mb Syquest Cartridge	MSQY88
5.25" 88Mb Syquest	£29.99

Best Selling SCANNERS

Umax Scanners



The Astra 600S was created for those of you who are looking for an easy, affordable way to put the sizzle into all of your everyday documents. The Astra 600S is simple enough for a novice to use in their home or office. Yet it provides the detail and crispness that a professional graphic designer would appreciate.

UMAX

Visioneer Paperport



Astra 600S	NEW	UA600S
300X600dpi/30bit/Optional Photoshop		£169
Vista S12E		UVS12E
1200X600dpi/24bit/Optional Photoshop		£324
Powerlook II		UPLIIPRO
1200X600dpi/36bit/Optional Photoshop		£1498
Mirage A3		UMD16
1600X800dpi/30bit/Optional Photoshop		£4998

Best Selling NETWORKING & COMMS

Sonic Ethernet



Thin Net BNC Trans	ET2	£24.95
Twisted Pair Trans	ETI	£19.99
Microprint 2	EMP2	£188

Global Village Modem



Teleport 33.6 9 pin	MGV33.6	£118
Teleport 33.6 8 pin	MGV33.6/8	£118

SMC Cards



TWP LC Card	ETWPLC	£52
TWP Nubus Card	ETWP11	£48
TWP PCI Card	ETWPCCI	£48
A1 PCI Card	EA1PCI	£74
TWP Comm Slot	ETWPCS	£48

Best Selling MEMORY



4Mb 30pin Simms	£28
16Mb 72pin Simms	£58
32Mb 72pin Simms	£118
16Mb 168pin Dimms	£64
32Mb 168pin Dimms	£124

Best Selling SOFTWARE



Insignia SoftWindows 95	£298	Corel Draw 6 U/G	£81
Adobe TypeManager 4	£38.49	QuarkXpress 3.32	£637
Norton Utilities 3.2	£66	Adobe Photoshop 4	£385
Symantec Suitcase 3	£47	Adobe Photoshop 4 U/G	£153
Claris FileMaker Pro 3	£143	Macromedia Freehand	£288



on any Mac product!

Best Selling DRIVES

Internal Drives



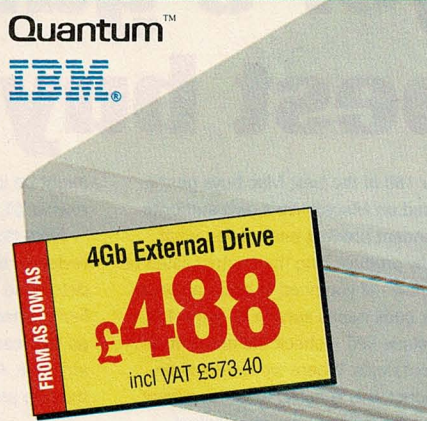
2Gb Quantum AV Int D2GQI
SCSI AV Internal 5400rpm **£194**

3.2Gb Quantum AV Int D3.2GQI
SCSI AV Internal 5400rpm **£259**

4Gb Quantum AV Int D4GQI
SCSI AV Internal 7200rpm **£call**

4Gb IBM AV Int D4GII
SCSI-2 AV Internal 7200rpm **£598**

External Drives



2Gb IBM AV Ext D2GIE
SCSI AV External 3.5in Drive **£288**

4Gb Quantum AV Ext D4GQE
SCSI AV External 7200rpm **£608**

4Gb IBM AV Ext D4GIE/2
SCSI-2 External 5400rpm **£488**

9Gb Fujitsu Ext D9GFE
SCSI-2 AV External WSL **£898**

MACFORMAT Classic

Our product team at Performance Direct put painstaking time and effort into sourcing the best possible products for your needs. An example is our high performance drive mechanisms sourced from world leading manufacturers like IBM, Seagate, and Quantum. We burn in, pre-format and test every drive with Charismac's award winning Anubis utility software to ensure reliability. We even ship you a free copy of Anubis with every drive so that you can partition, re-format or test your drive.

CD Writer



Jaz & Zip Drives

iomega

100Mb Zip Drive D100ZIP
External 100Mb Zip Drive **£89**

1Gb Jaz Drive D1GJAZIE
External 1Gb Jaz Drive **£298**



CD ROM



Take your CD ROMs to a whole new level of performance with our new faster CD ROM Drive.

- Fast 8 x Speed Drive
- Photo CD Compatible
- Free SpotCD software for extra speed

8 x Speed CD ROM DCD8E
8 speed CD ROM for Mac **£138**

DAT External Drive



4-16Gb DAT Drive DATAE
4-16Gb DAT External **£588**

Retrospect Software PDSR
Retrospect Backup 3.0 Software **£69**

* when purchased with Removable Drive offer ends 30.6.97

Xyratex Drive



Verbatim OptiDriver



To Order Call

Opening Hours

Mon - Fri: 9am - 6pm
Saturday: 9.30pm - 1pm

A 24hrs answering service operates outside these hours.

01784 477477

All prices are for business users and exclude VAT. Next Day delivery from £9 or 48 hour delivery from £5.50. Prices and descriptions are correct at time of going to press, but may change. E&OE. All orders are subject to our terms and conditions which are available on request. We may make our mailing list available to other companies, please let us know if you would like to be excluded. © Performance Direct 1997

Price Promise
We will MATCH or BEAT ANY price!
See details on previous page

Please quote code **MACF07** when ordering

To receive a FREE catalogue, please complete and return to Performance Direct, FREEPOST, Egham, Surrey TW20 9BR

Name _____

Company _____

Address _____

Telephone _____

Post Code _____

Fax _____

FREE Catalogue

Call today on **01784 477477**

Tick if you do not wish to receive mailings from other companies!

MACF07



Buying advice

Whether you're buying in person or by mail order, here's how to make the transaction go as smoothly as possible, and put things right if they go wrong. Note that everything here applies to buying from a business; most of it does *not* apply if you're buying from a private seller in MACFORMAT's reader ads pages.

How to protect yourself

If you are buying goods worth more than £100 in total, use a credit card if possible, for the whole or even just a part of the price. That way, in the unlikely event of anything going wrong, you'll be legally entitled to claim against the credit card company as well as the seller. (You won't get your money back twice, of course, but the credit card company is likely to be there to claim against, even if the seller has gone bust.) You might also get extra insurance for your purchase – check with your credit card company.

If you don't have a credit card, pay by cheque or postal order (ask at your post office). Never send cash through the mail, even by registered mail. Apart from any risk of theft, you can't stop payment if you need to, and even if you have proof of posting, it is impossible to prove how much you sent.

Keep records. If you're paying by credit card over the phone, keep a note of the exact time of the order and the name of the person who took it, and ask for an order number. If you're paying by cheque, make sure you fill in the details of the date, amount and payee's exact name on the stub – and keep it somewhere safe! Always keep all receipts, and make notes of all correspondence by mail or phone.

Other sensible precautions

■ Shop around for the best price and check what is included. Packing and delivery? Any necessary cables? VAT? By law, an advert must say *explicitly* if VAT is *not* included; if it doesn't, VAT is included. But this can be in the small print, so do check.

■ If you're buying by mail, ring first to confirm price and availability. Explain what you want the product for and satisfy yourself that you're getting what you need – you can't return something later just because you've changed your mind. Ask what the dealer's policy is should you have problems – few mail-order dealers offer "on-site" service. Find out when you can expect delivery.

■ If you're buying in person, check that everything works before you leave the shop. If you've ordered by mail, check the goods carefully when they arrive. If the driver's in a hurry, mark the delivery note "Goods not inspected". If there's any part of the product you're not happy with, don't use it. If you do, you could be deemed to have accepted it.

■ Whether you bought it by mail or in a shop, the law says a product must be:

1. "Of satisfactory quality" (that is, broadly speaking, it must work);
2. "As described" (in the advert or in

Buyer's guide to best buys

Here are over 160 of the best Mac buys on the market, based on MACFORMAT's own authoritative, independent product tests. If you want more information on any product, ring the contact listed or refer to our original review – if you need to order an issue you missed, turn to our back issues service on page 142.

All prices quoted include VAT – check the ads in this issue for the best current deals. Where we reviewed an earlier version of a product, this is noted in the comment line. Although we quote the ratings from our original review, the comments about each item are based both on that review *and* how we see the product now. *Word 6*

might be just as good now as when we reviewed it in MACFORMAT 20, but the competition has developed.

Note that some details may have changed since we first reviewed these products – hardware in particular is updated and improved regularly. The information in these listings has been thoroughly checked and is correct as we go to press, but prices and specifications can change at any time. Always make enquiries before you buy, to verify that the product you're considering will meet your needs.

MF CLASSIC We give the MACFORMAT Classic award only to products that set the standards for others to follow.

Storage media

What do you do when your hard disk is full to the brim? External storage devices can provide much-needed extra storage capacity or become a portable storehouse for vast quantities of data.

Name	Price	Rating	Reviewed	Contact	Telephone
Electronique d2 640Mb MO	£551	80%	MF48	Electronique d2	0171 833 0009
A respectable 3.5-inch magneto-optical drive, which is let down by its price and documentation.					
Electronique d2 2.6Gb MO	£2,114	83%	MF43	Electronique d2	0171 833 0009
A fast and neat magneto-optical drive, but it's expensive and comes with only basic software and poor documentation.					
Electronique d2 2Gb AV HD	£512	90%	MF43	Electronique d2	0171 833 0009
MF CLASSIC A stylish external hard disk with minimal documentation; basic driver software, but lightning-fast.					
Electronique d2 540 MCD	£288	83%	MF48	Electronique d2	0171 833 0009
One of the faster magnetic cartridge drives around, with full formatting and driver utilities.					
Gasteiner 1Gb HD	£293	90%	MF34	Gasteiner	0181 345 6000
MF CLASSIC A fast, cheap and compact hard drive, but with an extremely noisy fan.					
Iomega Zip Drive	£141	81%	MF48	Iomega	0800 973194
A well-established, cheap 3.5-inch 100Mb drive that feels a bit creaky and is looking rather slow in this day and age.					
MicroNet Jaz Drive	£469	94%	MF43	MicroNet	01926 470460
MF CLASSIC The successor to the Zip drive uses astonishing 3.5-inch 1Gb cartridges and is fast, portable and cheap.					
Olympus 230Mb PowerMO	£351	91%	MF43	Mac & More	01442 878900
MF CLASSIC A compact 3.5-inch magneto-optical drive that's neat, fast, cheap, and comes with a long-term warranty.					
ONE Tech 2.6 Optical Drive	£1,056	87%	MF51	Disc Direct	01223 507700
A solid magneto-optical drive – good build and performance at a competitive price.					
Performance Direct 2Gb HD	£375	92%	MF43	Performance Direct	01784 477477
MF CLASSIC An inexpensive and functional-looking hard disk which comes with excellent driver software.					
Quantum Fireball 1.2Gb HD	£269	88%	MF34	Performance Direct	01784 477477
A quiet, very fast hard drive with a good-length SCSI cable. We reviewed the Quantum Fireball 1Gb HD.					
Xyratex 5000 2.6Gb MO	£1,409	90%	MF43	Performance Direct	01784 477477
MF CLASSIC Reasonable performance and good value for money from this big slab of a magneto-optical drive.					

Monitors

Not all monitors are the same. How sharp is your picture? Are the colours crisp and true to life? What resolutions are available? Is there any distortion? We've tested both 15-inch and 17-inch models.

Name	Price	Rating	Reviewed	Contact	Telephone
AppleVision 1710	£927	92%	MF40	Apple	0800 127753
MF CLASSIC A 17-inch monitor with easy controls, overscan (no black borders) and superb picture quality.					
Hitachi 17MVX Pro 2	£704	85%	MF40	Hitachi	0800 605605
Good performance even at high resolutions, although setting up the screen could get fiddly and tedious.					
Hitachi 17MVX V2	£551	83%	MF44	Hitachi	0800 605605
Good picture quality and comprehensive controls but disappointing documentation. Impressive for the price.					
Iiyama Pro 17-inch	£735	89%	MF40	Iiyama	01438 745482
The DiamondTron screen provides excellent quality even at the staggering maximum resolution of 1,600 x 1,200.					



Name	Price	Rating	Reviewed	Contact	Telephone
Mitsubishi 17HX	£758	83%	MF40	Mitsubishi	01707 276100
Good quality except at the highest resolution, and comes with an anti-moiré function. The manual could be more helpful.					
Samsung 17GLsi	£822	84%	MF40	Samsung	0800 521652
A 17-inch unit with a maximum resolution of 1,280 x 1,024 and a Trinitron tube. Excellent quality at all resolutions.					
Sony 15sfil	£465	91%	MF40	Sony	0181 760 0500
MF CLASSIC	Unusually for a 15-inch monitor, the Sony provides superb picture quality at all resolutions.				
Sony 17sfil	£763	92%	MF40	Sony	0181 760 0500
MF CLASSIC	Picture quality is excellent at all resolutions, setting up is easy and the manual is excellent.				
Taxan Ergo Vision 730TCO	£735	84%	MF40	Taxan	01344 484646
This 17-inch monitor offers better picture quality than its 15-inch smaller brother. We reviewed the Ergo Vision 730LR.					
ViewSonic 15GA	£351	83%	MF51	IMC	01344 872800
An impressive multimedia monitor with sound quality – display not as fine as a Trinitron, but excellent value for money.					

Graphics cards

Speed up your Mac's display with an accelerator card. Different models can be set up to add resolution and colours, improve 3D rendering or offer all-round improvements.

Name	Price	Rating	Reviewed	Contact	Telephone
ATI Xclaim GA	£293	79%	MF45	ATI	01235 833666
The Xclaim GA has a good mix of useful features and it's a solid performer, but it would benefit from a price cut.					
Formac ProLegend GA (NuBus)	£622	80%	MF45	Formac	0181 533 4040
This card has a good range of features, but it's not terribly fast. Also, it doesn't support thousands of colours.					
Formac ProVision 4/60	£499	87%	MF45	Formac	0181 533 4040
The ProVision 4/60 has a broad range of features, good documentation and is very fast indeed.					
IMS Twin Turbo 128M2	£352	83%	MF45	Principal	01756 704040
Although slow in real-world tests, we liked this card because of its ease of use and upgradability.					
Matrox MGA Millennium	£234	88%	MF45	Principal	01756 704040
Pretty speedy and great value for money – this card offers not only 128-bit graphics, but also has QuickDraw 3D.					

Digital input

How do you get analogue data from the real world into digital data on your Mac? Here is MACFORMAT's pick of scanners, digital cameras and related software.

Name	Price	Rating	Reviewed	Contact	Telephone
Connectix Colour QuickCam	£199	85%	MF45	Connectix	0171 622 3355
As an unpretentious, low-cost and fun entry to digital still and video images on the desktop, it's difficult to fault.					
Epson GT-5000 scanner	£469	81%	MF41	Epson	01442 61144
This scanner's a little fuzzy but has reasonable colour reproduction. A little lacking in features, with poor documentation.					
Kodak DC-25 camera	£400	80%	MF51	Kodak	0800 281487
It's not cheap but it is digital – and just think of the fun you can have with the supplied <i>Power Goo</i> software.					
Microtek Scanmaker E3	£328	86%	MF41	CU	0181 358 5857
At 600dpi, images were a bit fuzzy and lost subtlety, but overall performance is very acceptable for a scanner of this price.					
Nikon Coolpix 100	£516	80%	MF50	Nikon	0800 230220
If you want a simple way to get digital images onto your PowerBook, this digital camera could be the solution.					
Umax Vista S6E scanner	£499	85%	MF41	IMC Distribution	01344 872800
Very fast scanner but with a little fuzziness and difficulty with greens. Otherwise quality was good, given the price.					
Visioneer PaperPort scanner	£293	86%	MF28	CU	0181 358 5857
Tiny A4 mono scanner that can sit between your keyboard and Macintosh – sheets are rolled in and out.					

Printers

Are you shopping for a mono printer or colour? Portable or desktop? PostScript or non-PostScript? Inkjet or laser? We've reviewed dozens of printers for every need, and here is our pick of the best.

Name	Price	Rating	Reviewed	Contact	Telephone
ALPS MD-2010	£529	90%	MF45	Rotec Distribution	01604 402012
MF CLASSIC	Slow and clackety though it might seem, the MD-2010 produces quite superb colour and definition.				
Apple LaserWriter 12/640 PS	£1,387	80%	MF47	Apple	0800 127753
A perfectly adequate laser printer – slightly over priced, but ideal if you feel safest with an Apple badge on your hardware.					
Apple StyleWriter 1500	£275	90%	MF38	Apple	0800 127753
MF CLASSIC	For the price, excellent colour performance even on plain paper.				
Apple StyleWriter 2500	£359	84%	MF38	Apple	0800 127753

A big improvement on its predecessor the 2400, but not quite in the same league as colour rivals from HP and Epson.

Buying advice continued

person – and this criterion applies also if you're buying from a private seller);
3. Fit for the purpose for which it was sold or which you specified.

If it fails to meet any or all of these criteria, you are entitled to return the product for a full refund, get compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the "statutory rights" that adverts always say are "not affected" by any extra guarantees. A dealer can't deny these rights or add conditions (such as "provided goods are returned to us at your expense within seven days").

How to complain

If you're not happy about something, contact the supplier first and politely explain your concerns. Be patient; if there's some technical problem, it may genuinely take some time to find a solution. Most difficulties are sorted out at this stage without further fuss.

If yours isn't, put your complaint in writing, clearly stating your problem and what you'd like done. Give the firm a reasonable time to reply – say 14 days or so.

■ If your complaint is not resolved, you may need to take some sort of legal action to enforce your rights. This need not cost you a lot of money. Seek advice from a solicitor (ask about the free advice scheme – you may not have to pay for the initial consultation). Or contact one of the following (check in your local phone directory):

- The Citizen's Advice Bureau,
- Trading Standards Office (listed under your local council),
- Office of Fair Trading, or
- County Court (ask about the Small Claims procedure).

Where to buy

■ Mail-order companies are ideal if you know what you want and how to set it up, and therefore just want the best price.

■ Retailers are a good bet if you need advice and technical assistance, and you want to examine products before you buy them.

There are a several types of retail outlet selling Macintosh products:

- Authorised Apple resellers may not always offer the best price, but you can expect a wide choice of hardware and software, and considerable expertise.
- Major retail chains can be another, sometimes more accessible, source. The Dixons group sells a limited number of models in the Mac range, while Comet and PC World stock hardware and software. Check with your local store before visiting, though – smaller stores may not stock a useful range.
- Entertainment chains like HMV now carry Mac software in some branches.
- Finally, independent retailers may stock Mac products. Check your local Yellow Pages for more information.

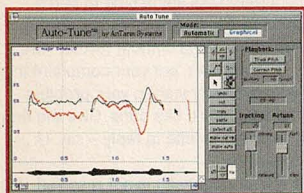


Product news

Tooled up for sound effects

Unity Audio has launched **Ionizer**, a plug-in tool for creating a wide range of professional music and audio effects. You can use *Ionizer* to filter delicate material, whether it's music or voice recordings, and sculpt it accordingly. You might reduce background noise in telephone interviews or on-location recording, for example. Distortion is also a constant obstacle in the recording process, but *Ionizer* enables you to use expansion, compression and equalization effects at the same time to remove hissing "s" sounds in poor recordings, as well as the low thuds that explode when "p" sounds are pronounced.

You can use *Ionizer* within familiar programs like *Premiere*, *Deck* and *Peak*, but look out for a stand-alone version in the near future. It's currently available for £675 from Unity Audio.



Unity is also releasing **AutoTune** (above), a plug-in for Steinberg's popular music sequencer **Cubase VST**. Already available as a TDM plug-in for systems like Digidesign's *Pro Tools*, *AutoTune* enables you to control vocal pitches through precise tuning, managing vibrato rates and adjusting the speed of corrections. Notable producers like Bob Clearmountain, Steve Lipson and the Pet Shop Boys already use the £499 TDM plug-in version, while the new *AutoTune* for *Cubase VST* is £393. Call Unity Audio on 01920 822890 for details on either of these products, or visit the Web site at <http://www.unityaudio.co.uk/>

Affordable screen solutions

With monitors becoming increasingly affordable, NEC is the latest company to join the move to cut prices of existing monitor ranges. The firm has reduced prices on its **M** series of multimedia models by 15%. The professional 17-inch **MultiSync M700** is now £729, while the consumer 15-inch **MultiSync M500** model is just £529. These monitors offer a set of resolutions up to 1,024 x 768, with a stable screen refresh rate of 75MHz. Built-in speakers are also included to make these models ideal for multimedia, music or video software.

NEC's **MultiSync XV17+** monitor is another 17-inch colour model and, like the **M** series, uses ChromaClear CRT (Cathode Ray Tube) technology for vibrant colour. It can also offer a maximum resolution of 1,280 x 1,024 and includes 19 memory settings, which enable you to move between different applications without needing to re-adjust resolutions constantly.

The XV17+ is now available at £599;

➤ page 130

Name	Price	Rating	Reviewed	Contact	Telephone
Epson EPL-5500	£469	89%	MF39	Epson	01442 61144
Compact and light 600dpi PostScript printer with a useful 5Mb of RAM. You'll need to buy a lead for your Mac, though.					
Epson Stylus Pro	£513	90%	MF38	Epson	01442 61144
MF CLASSIC Built like a breeze block, but offers stunning smoothness. Almost as good as a dye-sub printer.					
FotoFUN! Printer	£493	87%	MF31	Bannerbridge	01268 419101
Affordable, good quality dye-sub colour output. Takes up little space but only prints out 6-inch x 4-inch snapshots.					
HP LaserJet 5MP	£1,198	95%	MF29	Hewlett Packard	0990 474747
MF CLASSIC 600dpi PostScript laser printer with excellent greyscale and remarkable output quality at the price.					
HP DeskJet 340	£235	85%	MF27	Hewlett Packard	0990 474747
Portable 300dpi inkjet with colour capability and excellent output quality. We reviewed the HP DeskWriter 320.					
HP 870cxi	£494	92%	MF38	Hewlett Packard	0990 474747
MF CLASSIC First-rate colour balance and very good performance on plain paper. We reviewed the HP 850C.					

Modems

If you want to connect to the Internet, to bulletin boards, on-line services or even friends and acquaintances via your Mac, you need a modem. The faster the modem, the cheaper it will be to run.

Name	Price	Rating	Reviewed	Contact	Telephone
Global Village Teleport 33.6	£163	83%	MF51	Frontline	01256 868008
A fast and neat modem at a reasonable price, but the software bundle could have been more friendly and complete.					
Motorola 3400	£150	90%	MF39	Gasteiner	0181 345 6000
MF CLASSIC Uncomplicated and easy to set up 28.8K modem, but with rather basic fax software.					
SupraExpress 33.6	£175	89%	MF39	CU	0181 357 5857
Plain-looking 33.6K modem powered by your ADB keyboard port. We reviewed the SupraExpress.					
US Robotics Mac & Fax	£199	89%	MF39	US Robotics	0800 225252
The Mac & Fax Sportster is a fast and reliable 28.8K modem, but there's no straight-through port to plug a telephone into.					

Input devices

There are plenty of alternatives to your regular keyboard and mouse, including some for specialised use. Take a look at graphic tablets as well – these enable you to sketch into art packages.

Name	Price	Rating	Reviewed	Contact	Telephone
AlphaSmart Pro Keyboard	£234	86%	MF47	Chromasonic	0181 203 8989
Doubles brilliantly as a portable word processor, but as a keyboard it's let down by spongy key action.					
Apple Adjustable Keyboard	£166	81%	MF47	Apple	0800 127753
A space-age split keyboard which is remarkably comfortable, but bulky and overpriced.					
Apple Design II Mouse	£29	83%	MF47	Apple	0800 127753
Shapely mouse with positive click but a little bulky for smaller hands. It's standard with most PowerMacs and Performas.					
Calcomp DrawingSlate II A6	£116	86%	MF47	Calcomp	01734 320032
Superb value for money – just as well made as Wacom's tablets, with a brilliant range of highly usable features.					
Kensington Thinking Mouse	£54	86%	MF47	Mac Accessory	0191 296 1500
Top of the range. Has four buttons (five when front two are pressed together), all fully programmable.					
MacAlly Single-Button Mouse	£18	87%	MF47	Mac Accessory	0191 296 1500
Great value – the sensitive switch requires a super-light touch so lessens finger fatigue. Easy-maintenance design.					
Wacom ArtPad II	£158	90%	MF47	CU	0181 358 5857
MF CLASSIC A little expensive, but the quality is superb and the UltraPen Eraser is simply brilliant.					
Wacom UltraPad A4	£540	85%	MF47	CU	0181 358 5857
Very well made indeed, with the excellent UltraPen Eraser or puck. At the street price of nearer £350, a great buy.					

Office software

Many Macs are used in the office or study with worthwhile applications like word processors, databases and spreadsheets. There are many related productivity applications, too, like personal organisers.

Name	Price	Rating	Reviewed	Contact	Telephone
ClarisiImpact 2	£152	86%	MF34	Clarisi	0181 756 0101
Combines spreadsheet functions with charting, outlining and DTP for the ultimate low-end business presentation suite.					
ClarisiWorks 4.0	£152	92%	MF31	Clarisi	0181 756 0101
MF CLASSIC The Mac's standard all-in-one office suite. Inexpensive yet very powerful in the right hands.					
Excel 5	£220	87%	MF18	Microsoft	0345 002000
The only professional spreadsheet package on the Mac boasts 3D documents and more power than a Saturn 5.					
Expresso 1.0	£20	89%	MF31	Softline	0181 401 1234
Personal organiser that makes up for in charm and value what it lacks in high-powered relational data-handling.					

MacWeb

How can I increase my RAM cheaply?

Help! My Mac's crashed! What can I do?

What's the best free source of graphics?

How do I make my own Web site?

What CD-ROM should I buy for my kids?

FilmWeb

Where can I get The Lost World trailer?
When did Tarantino play Elvis?
When is Batman & Robin released?
Will Tom Cruise win Best Actor?
What film made the most money in '96?

Musicians

What does an A flat minor look like?
What's the best TB-303 clone?
How can I play like John Lee Hooker?
How do Erasure produce their sound live?
Where can I buy a new Fender amp?

PCNet

What type of modem would best suit me?
How do I upgrade my PC?
What is the best application software?
Which notebook computer should I buy?
What sound set-up should I get for my PC?

CyclingNet

What's the best entry level bike?
How do I fit Gor-tex cables?
Where are the best trails?
How do I stay fit?
How do I learn to bunny hop?

SFNet

Who shot Scully's sister in the X-Files?
Who stole Babylon 4?
Name the Doctor in the Who TV movie?
Who directed Star Trek: First Contact?
Who directed the smash 12 monkeys?

CRAFTNET

Where's my nearest craft shop?
Who's Jo Verso?
How can I make my cross stitch even?
When is there a craft fair near me?
Where's my nearest Anchor supplier?

Football NET

How much did Vialli cost Chelsea?
What are John Motson's favourite games?
Who are the great football legends?
Which club is the best in the world?
Where can I buy a Notts Forest strip?

GAMENET

What is DVD?
Which APS is best?
How fast is MMX?
Pro Log & Nicam - what's the difference?
How much is Super Mario 64?

TotalNet

How do I get on to the Internet?
Should I buy a 56kps modem?
Who controls the Internet?
What is Java anyway?
How can I publish my own Web pages?

FoodNet

How do I do flambé?
What can I make with this?
What's the thing you use to sift flour?
What should I do with a quince?
How many grammes are there in an ounce?

TechZONE

What does NTSC stand for?
What is PlayStation's CPU?
What two chips power the Saturn?
Who created Magic: The Gathering?
Who is Shigeru Miyamoto?

ClassicalNet

What does a conductor actually do?
What is classical music anyway?
How exactly do I pronounce Dvorak?
Is there a fan club for José Carreras?
What are the best new CDs to buy?

MangaNet

What is Manga?
What does OAV stand for?
What do the clowns in Akira ride on?
Where is Barefoot Gen set?
When was Akira first published?

TotalCar

What's the mpg of a Lotus Elise?
Is there a 300zx for sale near Southend?
What's the cheapest MPV?
What can I test drive today?
Which is my nearest Seat dealer?

Search for **anything**...

FutureNet.com

...find **everything**

FutureNet features
content from all these
market leading
magazines published by



COMPUTING

PC Plus
PC Format
PC Guide
PC Answers
PC Review
Mac Format
CDROM Today
Amiga Format
Computer Arts
Connect
.net

VIDEO GAMES

Official PlayStation
Magazine
PlayStation Power
Edge
GamesMaster
PC Gamer
Sega Power

CRAFT

Celebrations in Cross Stitch
Cross Stitch
Cross Stitcher
Cross Stitch Collection
Machine Knitting News
Needlecraft
Quick & Easy Cross Stitch
Cake Decoration Monthly
Needlework
Sew Today
Cake Baking
Good Woodworking

MUSIC

Future Music
Keyboard Review
Total Guitar
Guitarist
Bassist
Guitar Techniques
Hip Hop Connection
Rhythm
Classic CD
The Mix

SPORT

Cycling Plus
Total Bike
Mountain Biking UK
Mountain Bike World
Total Football
Sailing Today

ENTERTAINMENT

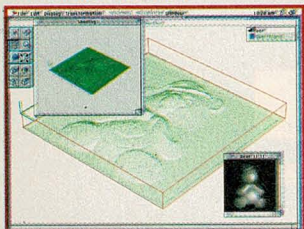
T3
arcane
SFX
Total Film



Product news continued

if you want one of these on your desk, call NEC on 0645 404020.

A cut above the rest



Patrick Thorn & Co has some new software solutions for using graphics in manufacturing and model making.

Maquette Volume 4.0 (above) is an advanced system for creating computer aided design (CAD) models. It converts your scanned pictures into 3D model data, which can then be relayed to most industrial milling and routing machines. This makes it ideal for prototyping, model making and 3D art, enabling you to produce complex model forms such as ceramics, jewellery and film props. The program supports industry-standard DXF file formats, so you can use models made with your other 3D programs. Expect to pay £2,937 for *Maquette Volume 4.0*.



MicroScribe 3D (above) is a 3D digitiser system that can quickly create realistic 3D computer models. You simply trace the surface of physical objects with the pen-like MicroScribe stylus, feeding the data into a 3D graphics program to construct detailed and accurate 3D models on-screen. It's as easy to use as a mouse.

The MicroScribe 3D hardware is available with the *Amapi* 3D modelling program, or with other popular graphics packages like *LightWave* and *Strata StudioPro*; you can simply specify which software package you need and Patrick Thorn will supply it bundled with the MicroScribe tool. MicroScribe 3D can even be used with *Maquette Volume* in a "virtual machining" process, where you can copy the outline of an object with the stylus and import the data into *Maquette* to translate the data for your cutting machine. This means you can modify and reproduce your object again and again. The MicroScribe digitiser costs £2,773, or £2,961 when bundled with *Amapi*. Further options for peripherals like foot pedals and tripods are also available. Contact Patrick Thorn & Co for a complete list of prices.

Finally, **Cutline 4.0** is the most

➤ [page 132](#)

Name	Price	Rating	Reviewed	Contact	Telephone
FileMaker Pro 3.0	£234	96%	MF37	Clariss	0181 756 0101
MF CLASSIC An excellent database that's been tweaked and tuned, and is now fully relational.					
Let's KISS	£153	91%	MF41	Softline	0181 401 1234
MF CLASSIC So far ahead of traditional spreadsheet designs you wonder why no-one thought of it sooner.					
Organiser 2	£81	86%	MF46	Clariss	0181 756 0101
Able to handle links between information both internally and to the Net – no networking, though.					
Up-to-Date & Contact 3.5	£116	89%	MF31	Now! Software	01525 237001
Dynamically-linked duo of contacts manager and diary. Occasionally a little too complex for its own good.					
Word 6.0.1	£220	92%	MF20	Microsoft	0345 002000
MF CLASSIC The world's favourite word processor has a monumental feature list but a bewildering array of controls.					
WordPerfect 3.51	£194	88%	MF48	Corel	0800 973189
A fully featured word processor that's every bit as powerful as any of its rivals, and friendly with it.					

Internet and comms

These days communications and the Internet are virtually synonymous, and the latest generation of Web browsers handle e-mail, FTP, Usenet and anything else you might want to do on the Net.

Name	Price	Rating	Reviewed	Contact	Telephone
Em@iler	£58	82%	MF42	Clariss	0181 756 0101
Neat and attractive e-mail application that handles mailboxes, enclosures and address books painlessly.					
Eudora Pro 3	£75	83%	MF42	Electric Mail	01223 501333
Very powerful e-mail application with a new, friendlier interface that doesn't quite hide some murky technical depths.					
Internet Explorer 3	Free	78%	MF39	Microsoft	0345 002000
Microsoft's browser isn't as good as <i>Netscape</i> , but it is free. We reviewed <i>Internet Explorer 2</i> .					
Netscape Navigator 3	\$49	94%	MF39	Netscape at http://home.netscape.com/	
MF CLASSIC The world's favourite Web browser does everything rather too well for comfort. We reviewed <i>Netscape 2.0</i> .					
Snap Mail 2 (5-user pack)	£206	90%	MF42	Softline	0181 401 1234
MF CLASSIC Simple and fun networked e-mail software that requires no administrators or complex set-up procedures.					

Utilities

Whether you want to add features missing from the regular Mac Finder or protect your set-up from System crashes, there's a utility to do the job.

Name	Price	Rating	Reviewed	Contact	Telephone
Conflict Catcher 4	£81	72%	MF51	Softline	0181 401 1234
Eases the drudgery of sorting out Extension clashes and helps to free up RAM, but it's looking expensive and limited.					
Norton Utilities 3.2	£116	88%	MF42	Symantec	01734 814230
Superficial enhancements to a dated application that's not even PowerMac-native yet. Still market leader... for now.					
Personal Backup	£46	92%	MF29	Softline	0181 401 1234
MF CLASSIC Automated back-up scripts that can run near-invisibly in the background at pre-set times.					
PopupFolder 2.0	£46	87%	MF35	Softline	0181 401 1234
Hierarchical folder menus up to 16 levels deep both in the Finder and in Find and Save dialogue boxes. Paradise!					
RAM Charger 3.0	£18	93%	MF47	Syncronys	00 1 213 340 4100
MF CLASSIC Frees up megabytes of precious RAM, runs on any Mac, and is compatible with Virtual Memory.					
RAM Doubler 2	£71	92%	MF43	CU	0181 357 5857
MF CLASSIC If you have a modern Mac, <i>RAM Doubler</i> is so essential a utility you'll wonder how you coped without it.					

Graphics

From image editing to professional illustration to 3D design and raytracing, here's our pick of the top Macintosh graphics packages.

Name	Price	Rating	Reviewed	Contact	Telephone
Bryce 2	£234	93%	MF38	Principal	01756 704040
MF CLASSIC 3D landscape creation tool that's more versatile than its predecessor and can create indoor scenes too.					
Canvas 5	£469	86%	MF49	Principal	01756 704040
A solid and well-featured all-rounder with image editing, drawing and page layout tools in one package.					
Cinema 4D 4.2	£699	93%	MF50	HiSoft	0500 223660
MF CLASSIC This 3D package offers power, speed and superb results, with features that match any of its rivals.					
CorelDraw 6	£465	91%	MF44	Corel	0800 973189
MF CLASSIC <i>CorelDraw</i> is great as long as you have a PowerMac and plenty of RAM and hard disk space.					
Dabbler 2	£59	90%	MF35	CU	0181 358 5857
MF CLASSIC Natural media painting program for those awed by multi-layered dialogues and complex options.					

USED MAC EQUIPMENT
 Bought and sold
 Best realistic prices paid
 Anything considered,
 working or not.
 Phone 0161 439 2414
 10am-4pm Mon-Fri

MAC REPAIRS

- Apple Authorised Service Provider (Warranty Honoured)
 - Same Day & Next Day On Site (No Maintenance Contract Required)
 - In House **Free Estimates**
 - While-U-Wait
 - Collection and Delivery
 - Data Recovery **Free Estimates**
 - Memory & Hard Disk Upgrades
 - Component Level Repairs
 - Rentals
 - Networking
 - Laser Printer Service
 - Maintenance Contracts
 - Software & Hardware Training
 - Second User Hardware **With Warranty**
 - Established 1986**
- 1 Parkgate House
 Broomhill Road
 London SW18 4JQ
 Tel: 0181-871 5009/4187 Fax: 0181-871 4188
- Honeylight**
COMPUTERS LTD

MACOLOGY
 Macintosh Sales, Service and Repairs.
 Network Installations.
 Internet Solutions/Upgrades.

 Competitive Quotes
 Call for Consultation
 Tel: 0973 211137
 Fax/Ans: 07000 211137
 This is not a premium rate line
 email: ian@macology.demon.co.uk

MEGASOFT COMPUTERS LIMITED
 18 HILDENS DRIVE, TELFORD, SHROPSHIRE, ENGLAND, WV11 1JH

REPAIR TO COMPONENT LEVEL
BUY USED & SURPLUS STOCKS

PART EXCHANGE
 YOUR OLD MAC FOR A NEW POWER MACINTOSH OR ANY OTHER APPLE PRODUCT

SECOND-USER ITEMS FOR SALE
 Apple Compact Systems, Mac LC Series, Mac II Series CPUs, Centris and Quadras, Performa Series & Power Macs, Powerbook 100 Series, Duo 200 Series, Powerbook 500 Series, Keyboard & Mouse, Mono and Colour Monitors, Printers, Floppy Drives, Hard Disks, Fax & Modems, NuBus Video Cards, Video Capture Cards, and many, many more good quality items supplied fully tested, with 90 day warranty.

NEW POWER MACS & PERFORMAS
BUSINESS FINANCE
 HIRE PURCHASE AND LEASE TERMS AVAILABLE

YOUR VITAL SOURCE OF SOLUTIONS

CALL US ON
 Tel: 0118 942 0400 Fax: 0118 945 2003
 Email: Megasoft@Patrol-i-way.co.uk
 Credit Cards and Amex welcome. Normal card surcharge applies.

*** REPAIRS ***
FREE ESTIMATES
MAINTENANCE TERMS
SPARE PARTS
ANY FLOPPY DRIVE
£45
*** TECS LTD ***
0181 776 8060

Computer FirstAid
Mac Repairs
 Competitive Prices
 We Specialise in Apple Mac's
 Repairs • Servicing
 Upgrades • Call-Outs
 Networks • Training
0171 609 7481

GDA COMPUTERS
 We have a huge range of New & Used equipment. Please call for professional advice and the best deals on all New & Used Mac hardware and software!

 Tel: (01344) 485414
 Fax: (01344) 485415
USED MACS BOUGHT & SOLD!

Kingsline Computers Ltd
 for Mac, PC, Nintendo 64, Playstation, Saturn, SGB, MegaDrive, Gameboy, Music CD's, Tapes & Videos

Disney	£3.95	Logan	£20.45
Aladdin Activity Centre	£3.95	Diagonale	£18.45
Lion King Activity Centre	£3.95	Travel New York	£16.45
Lion King Animated Storybook	£3.95	Travel Paris	£16.45
Pocahontas Animated Storybook	£3.95	Eye Eye London (3.5)	£27.45
Children's		Print Artist 4	£19.95
Peter's Alphabet Adventure	£16.45	Indy Car 2	£14.95
Peter's Magic Adventure	£16.45	Finalist Prelude	£19.95
Peter's Number Adventure	£16.45	Porsche Legend	£19.95
Jump Ahead Year 1 or 2	£23.45	No World Order	£22.95
Adison 4/5 or 6/7	£23.45	The Simpsons	£22.95
Sesame Street 1-6 make a word	£23.45	The Ultimate Encycyl of Soccer	£22.95
EA Kids Art Centre (3.5)	£23.45		
Professor Inn	£23.45	Leisure Suit Larry 7	£30.95
Scenes Magic Castle (3.5)	£23.45	Worms	£23.95
Casper Brain Book & Video	£23.45	Times Quest 7	£22.95
Educational		Cold Blooded	£26.45
Lil' House The Great Word Adv	£23.45	Acc Ventura	£26.45
Lil' House The Great Maths Adv	£23.45	Nascar Racing 96	£26.95
ADI English & Maths	£23.45	Power Poker	£27.45
(Please state age - 7 to 15)		Return to Wondor	£30.95
ADI Geography	£23.45	Shivers	£30.95
Jump Ahead - Discovery Tree	£23.45	Police Quest SWAT	£30.95
Jump Ahead - Pre-School	£23.45	Carriers at War	£30.95
Jump Ahead - Starting School	£23.45	Chuck Yeagers Air Combat	£30.95
Jump Ahead - Toddlers	£16.45	Wardlord	£30.95
		Battle Beast	£30.95
		Monty Python's Complete Waste	£30.95
		Rama	£34.45
		Caliber Knight 2	£39.45
		System Shock	£33.95
		Phantasmagoria 2	£39.45
		Outpost	£26.95
		Quest for Fame	£38.95
		Die	£34.45
		Hardline	£36.90
		Redshift	£34.45
		Return to 17	£30.45
		Casual 2	£29.95
		Colonization	£34.45
		Lighthouse	£34.45
		Wing Commander IV	£41.45

PRICES INCLUDE VAT & P&P
 Visit our web site for latest prices at <http://www.kcmail.demon.co.uk>
 Alternatively send SA for price list to
 Kingsline Computers Ltd, Ref MF976, PO Box 5682, Tamworth, Staffs B77 5QS
 Please enclose cheque with order. Cheques made payable to Kingsline Computers Ltd

STRANGWAYS
B.B.S.
0891 408040
THE MOTHER OF ALL BBS's
 62,000 Programs On-Line
 Gigs of Glamour Pics
 Games, Business, Pleasure
 Speeds up to 34,400 MNP5
 Live On-Line Chat
 Easy To Use System
 Exclusive On-Line CDs
 No Boring Questionnaires
 Calls charged at 50p per minute at all times.
 CD International, PO Box 107, Manchester M7 3WZ

MAC MUSIC

Midi Keyboards	from £59
Midi Interfaces	from £35
Notation Software	from £99
Cubase	from £99
Yamaha MU 10 Module	£189

tech-mate 215 Harwich Road
 Colchester Essex CO4 3DF
 E-Mail sales@techmate.demon.co.uk
01206 793355
FAX 01206 864994
<http://www.tech-mate.co.uk>
 FREE INFO PACK
 Call
01206 864994
 Prices include VAT

MAD MACS ...where the pre-enjoyed Macs are

FOR EXAMPLE...

	without VAT	with VAT
PowerMac 6100 .. from	£545.00	£640.38
PowerMac 7100 .. from	£645.00	£759.05
PowerMac 8100 .. from	£745.00	£875.38
Quadra 610 .. from	£445.00	£522.88
Quadra 650 .. from	£495.00	£581.63
Mac IICI, IISI & LCII .. from	£165.00	£193.88
PowerBooks 180 .. from	£395.00	£464.13
PowerBooks 520 .. from	£395.00	£464.13
PowerBooks 540 .. from	£495.00	£581.63
PowerBooks 520c .. from	£495.00	£581.63
PowerBooks 540c .. from	£595.00	£699.13
PowerBooks 5300c .. from	£995.00	£1,169.13
Mac IICI, Colour Screen & K/B .. from	£295.00	£346.63
Mac IISI, Colour Screen & K/B .. from	£275.00	£323.13
Mac LCII, Colour Screen & K/B .. from	£275.00	£323.13
Mac SE30 (the best classic Mac) & K/B .. from	£165.00	£193.88
P/B Duo 230, Dock, Screen & K/B .. from	£745.00	£875.38
Colour Monitors .. from	£145.00	£170.38
Mono Monitors .. from	£50.00	£58.75
External 2-speed CD-ROM Drives .. from	£75.00	£88.13
Extended Keyboard & Mouse .. from	£50.00	£58.75

...and a whole lot more; if you can't find it here - ask!

MAD MACS
 Everything we sell comes with a full no-quibble six-month return-to-base parts and labour warranty.
 Please phone to check latest availability and prices, as these can change daily. Also, ask about our latest offers.
 Prices are exclusive of delivery. Overseas orders welcome.
Phone 01379-788080
Fax 01379-783293





Product news continued

recent upgrade for sign makers who design their graphics on a sign-cutting machine. This specialist vinyl cutting application is capable of processing designs made with popular graphics programs like *Adobe Illustrator*, *PhotoShop*, *FreeHand*, *Canvas* and *Letra-Studio*. *Cutline 4.0* offers a host of new functions such as **Undo** and **Redo**, **Document Preview** and a **Cutter Status** window. You can control the speed, acceleration and pressure of the cut, and also create a plot file for archiving your data if you don't want to send it straight to the cutter. *Cutline 4.0* costs £581.

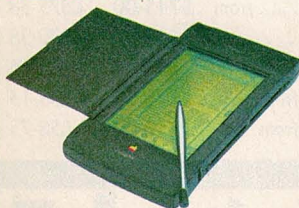
Contact Patrick Thorn & Co on 01784 466474 for more information on any of these products.

The swinging Sixties



They say that if you can remember it, then you weren't really there (thanks to the drugged hippy haze that gripped youths and Hendrix alike). 30 years down the track, chances are you've simply forgotten all about flower power; but the 1960s have now been immortalised on the CD-ROM *The Sixties: America 1960-1970*. Although the core subject matter here is American, with JFK, the Vietnam war and the 1969 moon landings forming the main stories, the Beatles also get a look in. Each key event, person and trend of the decade is documented and accompanied by video clips, photos and interactive time-lines. The disc also includes statistical, biographical, political and pop culture information, such as hit songs and top TV shows, to provide an extensive overview of the times behind the headlines. *The Sixties: America 1960-1970* is available from MultiEducator in the US for \$79 (about £49). You can contact the company's US office on 00 1 800 866 6434 or order it via the Web site <http://www.multied.com/>

Looking to the future



The **Apple MessagePad 2000**, which we reviewed in *MACFORMAT 48*, is finally now officially on sale. We gave the MessagePad 2000 an 89% rating for its speedy performance and easy-to-use

► page 134

Name	Price	Rating	Reviewed	Contact	Telephone
Detailer	£328	85%	MF46	Principal	01756 704040
<i>Detailer</i> is powerful, fast and satisfies a genuine need for a form of direct 3D image mapping every artist can understand.					
FreeHand 7	£529	82%	MF47	CU	0181 358 5857
A significant improvement on the previous version, this illustration giant is well worth upgrading to.					
Infini-D 3.5	£469	85%	MF42	Gomark	0171 731 7930
3D modelling, rendering and animation package that's easy to use but produces rather crude and mechanical results.					
Kai's Power Goo	£58	90%	MF41	Principal	01756 704040
MF CLASSIC With many professional-level tools, <i>Goo</i> might be the best fun you'll have with a graphics package.					
Painter 4	£469	91%	MF35	CU	0181 358 5857
MF CLASSIC Blends traditional painting tools and media with mouse pointers and Bézier curves.					
PhotoDeluxe	£88	85%	MF39	Adobe	0181 606 4000
Innovative and powerful photo manipulation package at a bargain price – if you've got the hardware needed to run it.					
Photoshop 4.0	£635	92%	MF47	Adobe	0181 606 4000
MF CLASSIC The world's most popular image editor gets even better with a careful rethink of existing capabilities.					
Expression	£151.58	90%	MF49	Principal	01756 704040
MF CLASSIC Natural media drawing program won't replace <i>FreeHand</i> , but it's useful, fun and good value.					
3D World 2.0	£116	78%	MF45	Microspot	01622 687771
A powerful, great value, basic 3D package – a good toy and superb learning tool, but nothing more sophisticated.					
xRes 3	£645	91%	MF38	CU	0181 358 5857
MF CLASSIC Heavyweight graphics package aimed at a market beyond <i>Photoshop</i> . We reviewed <i>xRes 2</i> .					

Video and animation

Once restricted to professional studios, video creativity is coming into its own on the Mac, especially as you can now broadcast through the World Wide Web and QuickTime.

Name	Price	Rating	Reviewed	Contact	Telephone
After Effects 3.0	£600	83%	MF45	Adobe	0181 606 6000
Great features make <i>After Effects</i> a very cost-effective way to give your movies a professional touch.					
Animation Works	£153	85%	MF26	Gold Disk	01734 814230
Aimed more at youngsters than professionals, but still needs drawing skills and an understanding of cel animation.					
Elastic Reality 1.21	£293	90%	MF26	Softline	0181 401 1234
MF CLASSIC Heavyweight morphing application that's more sophisticated than its cheaper rival <i>Morph</i> .					
Final Effects 3	£151	87%	MF45	Principal	01756 704000
The additional cost of <i>Final Effects</i> is well worthwhile, as this collection of plug-ins takes <i>After Effects</i> to new heights.					
Morph 2.5	£117	84%	MF26	Softline	0181 401 1234
Powerful and enjoyable morphing program at an affordable price. Easy to use, although lacking in professional features.					
Premiere 4.2	£586	90%	MF21	Adobe	0181 606 4000
MF CLASSIC The pro's choice, this video editing suite offers sophisticated features. We reviewed <i>Premiere 4.0</i> .					
PRoMotion	£149	80%	MF26	Gomark	0171 731 7930
Animation program for serious or professional users, which requires skill and know-how. Can output to videotape.					

Music and audio

The Macintosh is one of the mainstays of the professional music industry, and boasts a wealth of high-quality software for MIDI, sequencing, scorewriting, sound editing, and direct-to-disk recording.

Name	Price	Rating	Reviewed	Contact	Telephone
Cubase VST 3.02	£329	93%	MF50	Harman Audio	0171 207 5050
MF CLASSIC A highly graphic, high-tech sequencer with a superb range of digital audio features.					
Deck II v2.5	£410	84%	MF38	CU	0181 358 5857
Direct-to-disk recording program that also has many uses for multimedia authors and post-production studios.					
FreeStyle	£149	90%	MF22	Music Track	01462 733310
MF CLASSIC An excellent introduction to sequencing with some powerful and unique features.					
Logic 2.6	£649	92%	MF50	Sound Technology	01462 480000
MF CLASSIC One of the most powerful sequencers around – great for anyone serious about making music.					
MusicTime	£100	90%	MF27	Arbiter	0181 202 1199
MF CLASSIC An excellent budget-priced scorewriter that can use QuickTime's Musical Instruments Extension.					
Overture	£234	90%	MF24	MCM	0171 723 7221
MF CLASSIC Application for converting your MIDI compositions into printed scores in musical notation.					
Session 2	£175	89%	MF33	Digidesign UK	0800 898 331
Affordable direct-to-disk recording program. You miss out on some features, but it's still up to professional use.					
Visual Arranger	£39	90%	MF26	Yamaha	01908 366700
MF CLASSIC MIDI application for those who want to create a lot of music for relatively few musical skills.					
X<>Pose Visual Sampler	£449	85%	MF49	Harman Audio	0171 207 5050
Displaying visual effects in response to MIDI data, this has many practical applications in addition to being good fun.					

Problems transferring data between different computers?

We can copy **Amstrad PCW / CPC / BBC / Amiga / IBM / Mac / Apple II / Sinclair QL** (3" / 3 1/2" / 5 1/4" floppy disks) Mac or PC SyQuest / Zip) **Text & Image scanning** Details (see please)

MAPEJ (MF)

Meadow View, Quinta Crescent,
Weston Rhyn, Oswestry,
Shropshire SY10 7RN

Tel: 01691 778659

Fax: 01691 777638

<http://www.computlink.co.uk/~digby/Mapej.html>

MacMedia

DTP & COLOUR BUREAU

Mac Disk to 4-Colour

Sep. Service

109 BLACKFRIARS ROAD LONDON SE1 8HW 0171-401 8579/80

TYPESETTING
PAGE MAKE-UP
LITHOGRAPHIC OUTPUT
FILM & BROWSE
COLOUR & MONO SCANS
COLOUR PROOFING
COLOUR SEPARATIONS
MAC/BIB DISK
PROCESSING &
CONVERSION
FONT SUPPLIER
MODERN LINK

INTERNET

<http://www.seven.net/fount/>

01242-222308

Fonts

The Universal Fount Co. Ltd.

IT Training

Beginners to Advanced
MS Word FileMaker Pro
ClarisWorks Internet Etc...
Mac or Windows
Call: 0181 203 8882

MAC REPAIRS

Same Day Call-Out

Specialists in hardware & software troubleshooting including:

- On-Site Repairs
- Memory Upgrades
- Hard Disk Upgrades
- LaserWriter Servicing
- Maintenance Contracts
- Network Solutions
- Data Recovery
- Sales

DNA Computer Services Limited

Apple Authorised Engineers

Office: 0181-742 3524

Tel: 0831-295 099 & 0385-261 258

OUTER LIMITS BBS

0891 230044

Outer Limits, PO Box 67, Kidderminster, DY10 4YQ
Calls charged at 50p/min at all times



BUY SELL TRADE

New & Second Used Equipment For Sale

Quadra • LC • Centris
PowerMacs • Performas
Powerbooks • Scanners
Printers • Monitors

Part Exchange Welcome

Phone for Latest Prices

Tel: 0118 942 2755

Fax: 0118 942 2729



1,000 £50
FULL COLOUR BUSINESS CARDS

Litho Print • 350 gsm Card • Gloss Varnish

Free design. Or send yours on disk!

POSTCARDS / LETTERHEADS / COMP SLIPS...

For samples call 01582 658262

Fax: 01582 563533 • dbu1@cableol.co.uk

<http://www.cableol.net/dbu1/colourcards/>



F.B.I.

Macdata
transfer to

CD Rom

£35

Western Connection

Suite 18, 37 Westbourne Terrace, London W2 3UR

Tel: 0171 262 8707 Fax: 0171 224 8997 Mobile: 0370 300 616

E-mail address: western_connection@easynet.co.uk

G & N Computers

PowerMacs

Super prices on the latest new range of PowerMacs - 4400, 7300, 8600, 9600
Large number of Apple Refurbished (B-Stock) 8200, 7600 & 8500. Used PCI and Nubus PowerMacs now available.

Monitors

14inch from £159, 15inch from £209
17inch from £349, 20inch from £819

Complete System Bundles

for Graphics Design, Audio & Video Workstations

Tel: 01324 821011

Fax: 01324 821007

E-Mail: gandn@post.almac.co.uk

G & N Computers, Helenbank House,
Herbertshire Street, Denny, Falkirk, FK6 6HF.

SECOND USER APPLE MAC SYSTEMS

COMPACT MAC

- Mac SE30

DESKTOP MAC SYSTEMS

- Mac LC
- Mac IIsi

CLARISWORKS 3.0
WITH ANY SYSTEM
£25.00

- Mac Iivx
- Quadra 650
- PowerMac 6100
- PowerMac 7100

POWERBOOK DUO

- Duo 230
- Duo 280

Duo Desktop System
Duo, DuoDock, kb/mse,
Apple 14" Colour Display,
from £850



Second Byte Computers Ltd

Tel: 0171 609 4715

Fax: 0171 609 0991

E-mail: secondbyte@secondbyte.co.uk
Web Site: <http://www.secondbyte.co.uk>

complete with Kb/mouse

(68030/16) 4/40 **£200**

complete with Kb/mouse, Apple 14" Colour Display & System 7.1

(68020/16) 4/40 **£325**

(68030/20) 5/80 **£345**

► Mac Ilici (68030/25) 4/80 ◀
£425.00

Many people regard the Mac Ilici as the peak of evolution of the 68030 Mac II range... Today a still desirable second-hand bargain." - MacFormat January 1997

(68030/32) 8/80CD **£499**

(68040/25) 8/230CD **£575**

(PPC 601/60) 8/500CD **£750**

(PPC 601/66) 8/500CD **£850**

(68030/33) 8/120 **£399**

(680LC40/33) 8/200 **£625**

All prices include VAT @ 17.5%
All systems come with 6 months RTB warranty
Visa/Mastercard welcome

E&OE

Alternative configurations available

INTERNET SPECIALISTS...

Access National dialup for the price of a local call...
Trainning From beginnings to beyond...
WWW Complete range of World Wide Web solutions...

City NetGates Ltd

51 Broad Street • Bristol • BS1 2EP

Tel: 0117 907 4000

email: info@netgates.co.uk

<http://www.netgates.co.uk/>

Café Experience the net in relaxed informal surroundings...



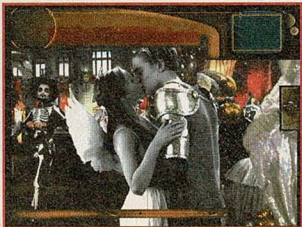


Product news continued

features. One of the fastest handheld computers to date, the 2000 supports a new version of the Newton OS and includes e-mail, fax and Internet utilities – useful for keeping any mobile professional in touch and organised. You can also make use of the word processor, spreadsheet and preconfigured e-mail software, which should work at impressive speeds due to the powerful 160MHz processor. The device also has an expansion slot for applications and memory cards, as well as a multi-purpose port to connect the pad to a keyboard. The *Newton Connection Utility* is included, enabling you to import or export your data to a Mac or PC.

You'll love the technology, and it's the ideal companion if you're travelling to and from meetings. The MessagePad 2000 costs £823; call Apple on 0800 639866 or take a look at the Apple Newton Web page <http://www.info.apple.com/newton/>

Wherefore art thou?



Shakespeare moves into the 1990s with the interactive version of *Romeo + Juliet*. In a release coinciding with Baz Luhrmann's cinema adaptation, the tragic text is also available on this CD-ROM. With original clips and sound-bites from the film, as well as a contemporary soundtrack, the CD enables you to read the original text in a linear way or focus on a particular character. The characters' different relationships with the young lovers are explained and illustrated with the relevant scenes from the movie. Costing just £9.99, this CD-ROM is available from Electronic Arts on 01753 549442.

Scanner scoop



Umax has reduced the price of its **Vista S-12** scanner by nearly 20%. It's now just £381, and Macromedia's mammoth *FreeHand Graphics Studio 2* package comes bundled with it!

This A4 flatbed colour scanner is a speedy and affordable model that's fully networkable. Used in tandem with the Macromedia pack, it offers extensive design possibilities. The *FreeHand Graphic Studio* includes the popular illustration package *FreeHand*, plus the 3D animation and drawing program

► page 136

Publishing and electronic media

Publishing today is about far more than print: you can also produce material as multimedia for CD-ROM or the Web, or use an HTML editor to create Web pages from scratch.

Name	Price	Rating	Reviewed	Contact	Telephone
Astound	£222	91%	MF36	Gold Disk	01734 814230
MF CLASSIC A top presentation tool which makes handling quite complex actions easy.					
Authorware Academic	£150	95%	MF43	Prentice Hall	01442 882266
MF CLASSIC Icon-based multimedia creation at its finest, this power-packed program is for education only.					
BBEdit 4	£112	85%	MF47	Full Moon Software	01628 660242
This Web authoring tool is definitely not for beginners, but it's very powerful in an expert's hands.					
BeyondPress 2.0	£570	85%	MF40	XChange	0171 637 2966
Easy to use <i>XPress</i> XTension for converting <i>XPress</i> pages into HTML. No support for font tags or frames, though.					
Digital Chisel HTML 2.1	\$159	89%	MF36	Pierian Spring	00 1 800 472 8578
Powerful entry-level educational package with a simple interface. We reviewed <i>Digital Chisel 2.0</i> .					
Director 5.0	£1,174	85%	MF41	CU	0181 358 5857
A sound upgrade to the industry leader for media authoring, which irons out many shortcomings. It's easier to use, too.					
Director Academic	£46	95%	MF43	Prentice Hall	01442 882266
MF CLASSIC De-facto standard for multimedia creation in a cut-down version – for education only.					
Home Page 1.0	£81	91%	MF47	Clarix	0181 756 0101
MF CLASSIC Clarix's Web page maker is good for beginners but still offers you room to grow.					
HyperStudio 3.0	£121	88%	MF36	TAG Developments	01474 357350
Practical and powerful tool aimed more at education than multimedia authors per se. More text styling tools are needed.					
PageMaker 6.5	£470	93%	MF50	Adobe	0181 606 4000
MF CLASSIC This DTP heavy-hitter is powerful, flexible and wonderful to design with, but you need a powerful Mac.					
PageMill 2.0	£116	90%	MF47	Adobe	0181 606 4000
MF CLASSIC A powerful, easy-to-use program with excellent support for advanced features like frames.					
QuarkImmedia	£1,169	91%	MF48	XChange	0171 637 2966
MF CLASSIC This XTension for <i>QuarkXPress</i> adds easy-to-use multimedia and Internet production features.					
QuarkXPress 3.32	£1,169	88%	MF48	CU	0181 358 5857
The market-leading DTP package costs plenty, but it's robust, powerful and flexible, right up to that final deadline.					
SuperCard 3.0	£308	84%	MF51	Gomark	0171 731 7930
Simple multimedia authoring and complex object-oriented programming combined – powerful but patchy.					
UniQorn 1.01	£1,052	80%	MF40	Principal	01756 704000
QuickDraw GX DTP application that does things <i>XPress</i> and <i>PageMaker</i> can only dream of. Needs hardware power,					

Multimedia CD-ROMs

The invention of the CD-ROM has created a whole multimedia publishing industry turning out educational, reference and leisure titles by the score.

Name	Price	Rating	Reviewed	Contact	Telephone
ABC of Animals	£40	90%	MF47	Creative Wonders	01753 549442
MF CLASSIC Covering a wide range of animals across the globe, this CD is educational and a well-designed treat.					
Solar System Explorer	£40	83%	MF49	Maris Multimedia	0171 488 1566
Daunting at first, but it soon becomes a thrilling journey around the planets, with you cast as the captain.					
Cinemanía 97	£30	92%	MF47	Microsoft	0345 002000
MF CLASSIC If you have a CD-ROM drive, £30 and even the slightest if interests in cinema, this is an essential buy.					
Encarta 96	£50	83%	MF42	Microsoft	0345 002000
Microsoft's definitive multimedia encyclopedia is bang up-to-date, but the Mac implementation is flawed.					
History of the World	£40	89%	MF38	Dorling Kindersley	0171 753 3488
More flashy and inspirational than in-depth and authoritative. Oozes quality, but built for browsing rather than research.					
Makers of the 20th Century	£45	89%	MF41	News Multimedia	01525 852 813
200 personalities of the 20th Century are examined and explained in a well-presented and often intriguing CD.					
Music Central 97	£30	85%	MF47	Microsoft	0345 002000
A well-researched and thorough delve into the world of popular music, even if some of the entries do seem quite obscure.					
The Mystery of Magritte	£40	90%	MF46	MIP	0171 881 8000
MF CLASSIC A radical look at one of the world's greatest artists. It'll make you question your very existence.					
Picasso	£40	88%	MF46	Grolier Interactive	01865 264000
An educational and entertaining trawl through the life and works of one of the world's greatest artists.					
RedShift 2	£50	92%	MF32	Maris Multimedia	0171 488 1566
MF CLASSIC Restrained but magnificent exploration of the universe using sound astronomic principles.					
The Way Things Work 2.0	£40	88%	MF45	Dorling Kindersley	0171 753 3488
Full of clear explanations and plenty of fun. Kids will find this easy to use, and can learn at their own pace.					
World Reference Atlas	£50	90%	MF37	Dorling Kindersley	0171 753 3488
MF CLASSIC Bestrides the Earth like a colossus, giving you the information you need, when you need it.					

Macintosh Training

We guarantee your training success

- Cover the course profile, or return free of charge.
- Courses in all major applications.
- Small groups with friendly trainers.
- Free phone support and materials.
- Reasonable prices.

tel: 0171 833 3193/837 8787

URL: <http://www.demon.co.uk/facetointer/>

Face to Interface LTD.

Boisdale House, 4-10 Rodney Street,
London N1 9JH.

Rack Systems UK
www.rack.demon.co.uk
SYSTEMS • STORAGE • MONITORS



PRINTERS • SCANNERS • MEMORY

Call Now for Best Price

0113 225 4480

Delivery Trade In Education Repairs Software



Bar Code Generation Software

MacBARCODA

- High-quality barcodes - all popular types.
- Works with all major graphics software.
- The most precise Mac barcode package.

Label Printing Software



- Choose Label Designer for PostScript laser, or MacThermal for reel-fed thermal printing.
- Barcodes, text, sequential numbering, graphics, mail-merge, AppleEvents.

Also • Bar Code Readers

Computalabel
INTERNATIONAL LTD

53a London Road, Leicester, LE2 0PD, UK
Tel: 0116-255-7898 Fax: 0116-255-7899

To
Advertise
in

MACFORMAT

call

**JACQUI
RUSSELL**

on

**0 1 2 2 5
4 4 2 2 4 4**

Free Design /
Typesetting Service
Available

To advertise here contact Jacqui Russell on

01225 442244

Free design / typesetting service available

PROTEUS

Mac & PC Graphics Design Company • Established 12 Years
35mm Slide Imaging from £3 per slide • Design • Screen Shows
OHPS • Prints • Disk Conversions • Scans • CD Writing £19

1-to-1 Training • In Fact EVERYTHING!

Open 8am-8pm • Fast turnaround in London W1

The Best Company for the Best Deals!

Tel: 0171 240 2494 ISDN: 0171 636 6437 74 Margaret St. W1

compuserve: 101677.1526 email: peta@proteus.u-net.com

MAC TRAINING FOR DESIGN PROFESSIONALS

Covering specialist applications
such as Page Design, Typography,
Colour Management, Scanning,
Creating & Retouching Logos
and all other aspects of
production work

For one-to-one or group training
to your specifications call us on

01225 483284

Profile

Who understands
the Mac & PC
memory market
better than
anyone?

Who offers a
lifetime guarantee
on memory
products - and
means it?



As always,
you just won't
catch a better
deal in Mac & PC
memory.

Here are some examples of just
how keen our prices are:

4 Mb	30 Pin	£18.90
16 Mb	72 Pin	54.50

Call us now for
a quote which will beat
all of the competition.
You won't be
disappointed!



Mr. Memory

Tel: 01483 727 333 • Fax: 01483 747 722



Product news continued

Extreme 3D. xRes is also part of the *Studio* – it enables you to manipulate scanned or illustrated images. Finally, *Fontographer* gives you freedom to edit existing fonts or create new ones for a real individual effect. Additional optional software for the Vista S-12 is also available – *PhotoPerfect Advanced* is an image correction utility, *VistaScan* automates your scanning and *Page-Manager* is a special filing system for graphics or text files. For more information about the Vista S-12 scanner, call IMC on 01344 872800 or visit the Web site <http://www.imcnet.com/>

Feel like a facellift?



Customise your CDs with the **Neato Professional CD Labelling Kit** (above), the new CD labelling package you can use to stick personalised labels on your CDs. If you're swamped under a faceless, lifeless collection of CDs, this kit from Neato could get you organised. The novelty graphics cover a wide range of subjects, from travel to audio equipment; and if the novelty wears off you can stick with plain colours. There's even a pastel range if you have more delicate tastes. The kit includes an applicator to place the adhesive labels precisely on the CD face, while the *Labeller* software curves the text to fit on your new labels.

The **Neato Jewel Case Pak** is an extra package you can use to create your CD case slips. You can make four-page booklets with contents of the CD printed inside, as well as putting information on the spine. The templates and designs complement those of the Professional Labelling Kit and can make your CD sleeves as distinctive as the CDs themselves. Get the Jewel Case Pak for only £23 and The Neato Professional CD Labelling Kit for £64. You can phone Neato on 0181 932 0540, or see the Web site <http://www.neato.com/>

Look and learn

Multimedia publisher Two-Can has produced *Interfact*, a series of education packages combining learning and fun for children. Each *Interfact* pack includes a CD-ROM of interactive puzzles and games and a book with all the reference information you need. Subjects include science in *Electricity & Magnetism* and *Solar System*, history in *Vikings* and *Egyptians*, and nature in *Oceans* and *Rainforests*. At £9.99 a pack, the *Interfact* series will be available exclusively at W H Smith from the end of June. Call Franklin Watts on 0171 739 2929 for more information.

Multimedia for kids

How do you keep the kids entertained on a wet Sunday afternoon in November? Multimedia CD-ROMs for kids can entertain, occupy and educate all at the same time.

Name	Price	Rating	Reviewed	Contact	Telephone
Adiboo	£28	95%	MF46	Sierra	0118 920 9100
MF CLASSIC A fantastic learning adventure, packed full of activities and fun, keeping your kids fascinated for hours.					
Adventures of Peter Rabbit	£30	88%	MF43	Mindscape	01444 246333
A rare and challenging adventure game which will educate and captivate your kids.					
Counterfeit Collaborator	£28	90%	MF35	Sierra	0118 920 9100
MF CLASSIC A genuinely intriguing mystery forms the heart of this Playtoon CD.					
Darby the Dragon	£20	89%	MF44	Brøderbund	01429 273029
A rare and challenging adventure game which will educate and captivate your kids.					
Toy Story Activity Center	£40	85%	MF51	Disney Interactive	0181 222 1413
Beautiful, fun and educational too – a few more games might have made this a Classic.					
KidWorks Deluxe	£35	88%	MF43	ABLAC	01626 332233
An excellent package which encourages children to get involved in all aspects of story-making.					
Logical Journey of the Zoombinis	£30	96%	MF41	Brøderbund	01429 273029
MF CLASSIC A well-designed course in mathematical logic for kids that's disguised as a superb-looking and fun game.					
Maths Workshop	£30	90%	MF41	Brøderbund	01429 273029
MF CLASSIC Teaches maths in the broadest possible sense, with wonderful-looking activities and a good manual.					
My First Amazing World Explorer	£30	89%	MF41	Dorling Kindersley	0171 753 3488
Interactive atlas that's pitched at just the right level for younger children, showing the world as a diverse and living thing.					
The Time Warp of Dr Brain	£28	90%	MF50	Sierra	0118 920 9100
MF CLASSIC Insane, hilarious and educational, this is a gripping piece of multimedia.					
Uncle Archibald	£28	90%	MF35	Sierra	0118 920 9100
MF CLASSIC Another excellent Playtoon about imaginary monsters that come to life. Slapstick chaos is the result.					
Word Stuff	£20	85%	MF39	Eidos Interactive	0121 606 1800
Teaches English and explains various everyday situations. An excellent blend of entertainment and real educational value.					

Games

As a games machine, the Macintosh rivals both the PC and the plethora of whizz-bang games consoles flooding the market. The best games tend to be those that involve brains as well as reflexes.

Name	Price	Rating	Reviewed	Contact	Telephone
Actua Soccer	£40	90%	MF46	Gremlin	0114 275 3423
MF CLASSIC A beautiful game about the beautiful game, and a superb debut performance for football on the Mac.					
Apache Longbow	£45	92%	MF41	Digital Integration	01276 684959
MF CLASSIC 3D Gouraud-shaded flight sim with real class and some fairly hefty hardware requirements.					
Caesar II	£35	85%	MF48	Sierra	0118 920 9100
An excellent, finely balanced <i>SimCity</i> -style title – absorbing and beautiful.					
Close Combat	£45	89%	MF48	Microsoft	0345 002000
A realistic war game with elements that will appeal to both tacticians and action junkies alike.					
Command and Conquer	£35	95%	MF51	Virgin Int. Ent.	0171 368 2266
MF CLASSIC The best game on the Mac, where strategy and shoot-'em-up combine to give a thrilling experience.					
Day of the Tentacle	£40	94%	MF33	Virgin Int. Ent.	0171 368 2266
MF CLASSIC You'll love it. You'll hate it. It's funny, it's involving and the cartoons are quite superb.					
F/A-18 Hornet 2	£69	93%	MF36	Softline	0181 401 1234
MF CLASSIC Realistic, absorbing and fun – an instant classic with imaginative and interesting missions.					
HIND	£45	88%	MF49	Digital Integration	01276 684959
This companion to <i>Apache Longbow</i> puts you in control of a Russian craft – a solid and engaging flight sim.					
IndyCar Racing II	£17	94%	MF42	Sierra	0118 920 9100
MF CLASSIC Spectacular simulation at its finest, and at a real bargain price. Stunning graphics and attention to detail.					
Marathon 2	£65	95%	MF35	Softline	0181 401 1234
MF CLASSIC A huge game task, addictive gameplay and excellent graphics and sound. What more could you ask for?					
MechWarrior 2	£50	89%	MF43	Activision	0181 742 9400
The controls take some getting used to, but <i>MechWarrior 2</i> is too addictive to let that worry you for long.					
Pro Pinball: The Web	£35	90%	MF44	Empire	0181 343 7337
MF CLASSIC The finest pinball simulator ever (full stop).					
WarCraft II	£45	93%	MF45	ZABLAC	01626 332233
MF CLASSIC A delight to look at and, in multi-player mode, as near to perfect as a game of this type has come.					
Weekend Warrior	\$39	85%	MF50	Bungie	00 1 312 563 6200
Astonishing game-show violence, but you'll need a 3D graphics card and a PowerMac to use it.					
Worms	£30	89%	MF45	Team 17	01924 271637
Simple concept with almost endless tactical possibilities. Great multi-player game but let down by a clumsy interface.					



Free reader ads

It's nifty to be thrifty – our Mac marketplace has all the bargains you're looking for and lots more besides!

Hardware for sale

■ **Quadra 660AV**, CD, 16 bit stereo, video in-out, keyboard, mouse, cables, manuals, software, original packaging, home use only – £750 (monitor not included). ☎ 0161 832 1175

■ **Mac LC** 10Mb RAM, 512Kb VRAM, 120Mb HD, 12-inch monitor, mouse, microphone, keyboard. All boxes and manuals – £250. ☎ 0181 428 4140

■ **Apple StyleWriter II**, complete with cables, software, manual. Boxed, as new £70. ☎ 01604 404767

■ **Mac Performa 630** plus TV/video in, 15-inch multiscan monitor, keyboard, mouse and StyleWriter. Boxed, complete with manuals – £900 ono. N. Ireland ☎ 01265 52244

■ **Apple PowerBook 140**, 4Mb RAM, 120Mb HD, adaptor and case, software, vgc. Quick sale – bargain – £350 ono. E2 ☎ 0171 613 0230

■ **Centris 650** 16/260 internal CD ROM, monitor, keyboard, mouse, external 1.6Mb HD, external fax/modem, Wacom tablet, HP660c, System 7.5.3, *ClarisWorks*, *Netscape Navigator*, *PhotoShop*, *Illustrator*, *Xpress*, *xRes*. Offers in the region of £1,700. Roger ☎ 0181 668 6580

■ **Performa 6400** 180MHz 48/1.6Gb X8 int. CD, int. fax/modem, Agfa Studioscan IIsi, HP660c, monitor, keyboard, mouse, System 7.5.3, *ClarisWorks*, *Netscape Navigator*, *PhotoShop 4.0*, *Illustrator 6.0*, *XPress 3.32*. Un-wanted prize, boxed, unopened. £2,300. ☎ 01603 468624

■ **Global Village Teleport Gold 14.4 fax/modem**, in excellent condition with software and manuals – just £60. ☎ 01482 656998

■ **Performa 630**, 14-inch monitor, 16Mb RAM, Apple CD 300i plus colour StyleWriter 2500, Nikon flatbed colour scanner with supporting software plus other various software – £1,500. ☎ 0181 546 4233

■ **Apple QuickTake 150 camera**, still in box – £350. Plus Apple Personal Communication kit, 14.4bps, and PlainTalk microphone, 16Mb, 72 pin SIMMs, speakers – £200. Sandro ☎ 0171 388 2597

■ **PowerBook 165** 4/80, including *ClarisWorks 2.0* and case – £399 ono. ☎ 01934 712934

■ **Quadra 840AV**, 16Mb RAM, 1Gb drive, CD-ROM, 20-inch Trinitron monitor, 24-bit card, Geopoint modem, microphone, speakers, extended keyboard, mouse, software. Sensible offers. Jason ☎ 01792 468503 / 470258

■ **PowerMac 6100**, 60MHz, 16Mb RAM 160Mb HD, monitor, keyboard, mouse, CD-ROM, manuals, US Robotics modem 28.8. Excellent condition – £799. Computer only – £699. Staffs ☎ 01785 817257

■ **LC630/36/350**, Maths Co. processor installed, 15-inch monitor, keyboard, HP320 colour printer, CD-ROM, speakers, 36Mb RAM. Well maintained, many extras – £850. ☎ 0181 399 5188

(days) 0181 399 5583 (eves)

■ **PowerBook Duo 230**, 12/80, excellent condition, Global Village, 14.4 fax / modem, System 7.5.3 – £400. ☎ 0181 332 6417 (eves)

■ **LCII 10/120**, 14-inch colour monitor, keyboard, StyleWriter II, *ClarisWorks II*. Still boxed, excellent condition, £500 offers. PowerBook 150 4/250 AC adaptor, carrying case, *ClarisWorks 2.1* installed, £400 offers. Contact Clive ☎ 0860 172557 (mobile)

■ **2 x 8Mb 72 pin SIMMs** – £25 each or £45 the pair. MicroMac Thunder cache accelerator with FPU for LCII / P400 – £70. ☎ 01260 275481 or e-mail J White at jblanco@demon.co.uk

■ **Performa 630 CD TV** 12/350 up-graded to 68040 processor (incl. FPU), Performa, CD, *Avid VideoShop* CD. £500 ono. *Adobe Illustrator 6*, un-opened, un-registered – £200. Alan ☎ 01452 856792

■ **PowerBook 5300cs** 500 HD, 24 RAM, external CD, 2 x speed, 2200 StyleWriter – £1,500 the lot. Jules ☎ 01203 597698

■ **Modem 14.4 bps** with cables and fax, modem software – £70 ono. Contact ☎ 0131 538 5729

■ **StyleWriter** printer, boxed, cable, software, fonts. Home use only – £60. ☎ 0121 311 1892

■ **PowerBook Duo 210 4/80**, floppy adaptor, floppy driver, System 7.1, plus *ClarisWorks 4.0* – £550 ono. Chester ☎ 01244 660214

■ **Mac IICI 4/40**, 13-inch RGB, keyboard, cables, mouse – £300. Apple A4 mono portrait monitors x 2, no cable hence only £30 each. Contact Martin ☎ 0161 740 5272

■ **Apple personal LaserWriter 320**, 7000 pages printed, PostScript Level 2, new toner cartridge, excellent condition – £360. SIMMs: 8Mb/60Ns – £15. 4Mb/70Ns – £9. David ☎ 01524 770753

■ **Centris 610 20/230**, full 68040, 28MHz, CD-ROM, with Mac colour display – £750. West Sussex, ☎ 01903 762846

■ **Classic 4/40**, System 7, StyleWriter printer, *MS Works*, *HyperCard*, *Voyager Planetarium*, *Mac Gallery*, *After Dark*, *KeyFonts*, computer carry case etc. £295 ono. Harrogate, Brian ☎ 01423 883632

■ **Mikrotek ScanMaker II** with tranny adaptor – £350. Kent ☎ 01843 581607

■ **Performa 5300** 16/1.2Gb plus colour StyleWriter 1500, includes modem, Internet kit, many CDs, six months old – £1,500 ono. Will split. Simon (eves) ☎ 0181 347 9257

■ **Apple Performa 630 20/520/CD** CPU only, MS Office, Speed/RAM doubler, plus much more – full demo – £575 ono. ☎ 01522 870102

■ **Psion 3A** 1Mb, case, Mac link, Parallel link, software file, manager manuals, Commodore ink jet (portable), all mains adaptors, refill kit (inkjet) – £350 or serious offers. ☎ 01279 639265

■ **Epson Stylus Pro** A4 quality 4-colour printer, as new – 6 months old – £225 ono. Also PostScript software – £120

ono. Essex ☎ 01708 452136

■ **Performa 450**, 8Mb RAM, System 7.1, StyleWriter II, 13-inch colour monitor, Reno CD-ROM player, *ClarisWorks*, loads of software. ☎ 01777 704449 or e-mail: (preferably) pagey90210@aol.com

■ **PowerBook 1400CS** 16/750 brand new, boxed with un-registered software including carry case, CD drive as well – £2,000. Tawny ☎ 0171 461 0427

■ **PowerBook 180** 14/500 14.4 GV internal modem, power supply, nearly dead battery, deluxe carry case, great machine – £800 or consider any offers. ☎ 01538 752291

■ **Performa 6400/200MHz**, 48Mb RAM, XClaim VR, 3D Accelerator, Apple scanner, StyleWriter printer, 33.6K bps, modem, Apple speakers, software, 4 months old. Worth £2,200, will sell for £1,600. ☎ 01661 823283 (eves)

■ **LaserWriter 4/600PS**, 600dpi, 4PPM 6MHz RISC Processor, Level 2 PostScript, manual, software – cost £699 new, will accept £350. Rob ☎ 01132 264107 or e-mail: rfchilvers@worldscope.co.uk

■ **PowerBook 180** 8/120 active matrix grey scale screen, excellent condition – £525. ☎ 01582 621117 (eves only)

■ **Performa 6200 8/500**, CD, TV, System 7.5.5, 14-inch monitor, keyboard, software, titles and *Video Director v2.0* – £1,000. Martin ☎ 01926 855119 (eves)

■ **Wacom A4 graphics tablet** with new tablet cover and pressure sensitive stylus – £225 ono. ☎ 01494 446636

■ **Performa Power PC 5200 12/800**, 15-inch monitor, extended keyboard, boxed with manuals – £850. StyleWriter II printer – £100. All excellent condition, genuine sale. Peter ☎ 01548 853356

■ **CLC10 Canon high quality printer**, colour photocopier and colour scanner A4, complete with IPU. Good condition – will accept £500 ono. Central Scotland. ☎ 01259 210541

■ **PowerBook 5300C 8/500** £1,000 off! High quality colour screen. 100MHz Power PC. Excellent condition – was £2,700, will sell for £1,700 ono. Southampton, David ☎ 01703 473450

■ **Macintosh LCIII 40/100** (60 ext), 13-inch colour monitor, extended keyboard, home use only. Lots of pre-installed software. Very nice and clean – £350. ☎ 0181 241 7684

■ **Apple 15-inch Multiscan display**, selling due to upgrade – £150. 8Mb 72 pin SIMMs – £20. ☎ 01524 388784

■ **Performa 630 20/500** CD, System 7.5.5, *ClarisWorks 4*, *PhotoShop 3*, *Cubase 2.5*. Complete system – £650 ono. Oxford ☎ 01865 400473

■ **Mac Quadra 660AV 20/500** CD full video/sound in/out. Music, graphics software + keyboard, mouse, 13-inch AV monitor – £800. Jeremy ☎ 01277 810128

■ **PowerMac 8500/120**, keyboard, TurboMouse, Applevision 17-inch monitor, CP – 668 speakers, microphone, Umax Vista S-12 scanner, StyleWriter 2500 printer, *TextBridge*, plus more. Only £3,500. Kaylee, ☎ 0370 682359

User Groups

User groups are more or less informal clubs of people with a common interest – in this case, the Mac. They're a great source of information, advice and help. Some simply meet every now and again; others are more structured and may even publish regular newsletters.

UK User Group Council list

The UK User Group Council maintains a list of the Mac user groups which have registered with it. If you wish to contact the council, call John McKnight on 0181 314 1753.

Local groups

■ **Aston University Mac UG:** Birmingham area. Contact Ray Tier on 0121 359 3611

■ **Berkshire Mac UG:** contact Ian Burn on 01734 813

■ **Blackburn Mac UG:** contact Roger Moreton on 01254 670043

■ **Cambridge Apple UG:** contact Ian Archibald on 01223 311157

■ **Cancer Research/RMH UG:** contact Raymond Henry on 0181 643 8901

■ **Cumbria Mac user group:** Monthly meetings, newsletter, training Call Linda Linsell, 01229 828422 or send SAE c/o 10 Athol Street, Barrow-in-Furness, Cumbria LA14 2QT.

■ **Gateway UG:** Norfolk area. Contact Verne Anderson on 01638 513000

■ **Glasgow Mac UG:** contact Stephen Broadfoot on 0141 339 6646

■ **London Mac UG:** contact John McKnight on 0181 314 1753

■ **Mac Assist:** Cardiff and district. Contact Nigel Arrighi on 01222 224682

■ **Midapple:** West Midlands. Contact William Watson on 01384 277921

■ **Midland Mac UG:** Worcestershire. Contact Ivan Knezovich on 01299 402631

■ **North West Apple CC:** contact George Evans on 01270 583714

■ **Norwich Mac UG:** Dave Gudgeon on 01508 492938

■ **Nottingham Mac UG:** contact David Nicholson-Cole on 0115 945 5077 or 0115 945 5444

■ **Poole Mac UG:** contact Bob Lister on 01202 684441

■ **S E Essex Mac UG:** contact Michael Foy on 01702 468062

■ **Southern Mac UG:** Salisbury area. contact Roger Ford on 01722 780102

■ **Southwest Mac UG:** contact John Elver on 01272 693119

■ **Staffordshire Poly Mac UG:** contact Mark Stiles on 01785 52331

■ **Sussex UG:** Hastings & E Sussex. Contact Garry Nevin on 01424 714110

■ **West Midlands UG:** contact Danny Torbica on 01902 336172

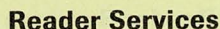
■ **Yorks & Humberside Mac UG:** contact David Vardy on 01423 358853

Thematic user groups

■ **BAPC (Printers):** contact Derek House on 01228 513621

■ **Christian Mac UG:** contact Paul

➤ page 138



Wareing on 01789 490153

Others

This listing is a free service for amateur, non-profit-making Mac user groups. MACFORMAT does not endorse or recommend any group and cannot be held responsible for any problems you might suffer as a result of contacting any of the groups listed here.

8/350, System 75.5 comes complete with manuals, new keyboard and new mouse. Very light home use only. Ring for further details on any of these items (after 6pm) ☎ 01582 570167

■ **Performa 6200 16/500**, 15-inch Apple colour monitor, mouse and keyboard, System 75.3 and ImageWriter LQ printer plus cables. £1,100 ono. Chris ☎ 01242 780511

■ **GV Powersport Platinum PCMCIA** card, plus Global fax and OCR software. Used only once - £220. Connectix B & W QuickCam, incl. software - £50. NEC multisync 4FG colour monitor, 15-inch, flat square, 0.28 dot pitch, 1027 x 768 - £350. Michael ☎ 0171 938 1801

■ **Apple Vision 1710** display - £500. Ipswich ☎ 01473 624767

■ **PowerBook 1400CS** with 2200 portable printer and carry case. 16Mb RAM, CD and floppy modules, new, in box, under guarantee. Offers invited. Visioneer Paperport VX scanner for Apple Mac, SCSI adaptor, brand new, in box with receipt. £150 ono. Cheshire ☎ 01625 548491 (after 6pm)

■ **Mac LC 475 8/500**, 14-inch monitor, FPU, thousands of colours, 250Mb external 560c, HP printer, desk - £750 ono. Epping, Simon ☎ 01992 575791 or 0171 345 3204

■ **Epson Stylus 800 mono printer**. Excellent condition, good printing quality - £120 ono. ☎ 0118 987 5848 (eves)

■ **Syquest 200Mb** MicroNet, brand new, plus three 300Mb cartridges - £275. ☎ 01254 386585

■ **Performa 630 Plus**, TV/CD, 8/350, 14-inch monitor, keyboard, mouse, manuals, HP540 colour printer, complete system - £800. Buyer must collect. ☎ 0171 701 1279

■ **Deluxe PowerBook carrying case**, green with brown trim - cost £45 new. Un-used - £30 incl. post. ☎ 0171 419 4146 (day) or 0181 715 7545 (eves)

■ **LCIII 8/80** with 14-inch colour monitor, keyboard, mouse. Excellent condition, much application software also installed - £475 ono. Bristol, ☎ 0117 942 4250

■ **PowerBook 5300CS** (100MHz), 16/500, still under guarantee, as new. ☎ 01670 712508 or e-mail: david.robson@ndirect.co.uk

■ **Performa 475 20/250**, 14-inch colour monitor, CD300e, *ClarisWorks*, *ClarisOrganiser* and absolutely loads of other stuff. HP310 colour printer - £550. US Robotics, Mac & Fax 28.8 - £99. ☎ 01291 623058 (eves) or 0831 399056

■ **Mac LCII 10/40** with Thunder 33MHz accelerator + 512 VRAM and FROG 130E external hard drive and keyboard, mouse and loads of software - £450 ono. ☎ 01702 352291

■ **Performa 400**, 4/40, 14-inch Performa Plus monitor, keyboard, mouse, all manuals, excellent condition, plus lots more extras - accept £380. Contact Flora ☎ 01563 572693

■ **Apple PowerBook 160 8/80**, HP320 colour printer, Global Village Platinum modem, System 7.1, Torus case, *RAM Doubler*, spare battery - £600. Liverpool ☎ 0151 260 5184

■ **Apple Quicktake 150** camera, boxed, as new, barely used and in perfect condition. Bargain at £120 ono. Matt ☎ 0181 948 3993

■ **IIci 20/160**, 13-inch colour monitor, HP510 printer, 2 x CD-ROM, external speakers, keyboard, mouse, *RAM*

Double, ClarisWorks 4 - £625 ono. LCII, 10/40, 13-inch colour monitor, keyboard, mouse, microphone, *ClarisWorks 4*, *MSWord*, both System 7.5.5. - £400 ono. Bill ☎ 01709 875743

■ **Collectors! Apple II clone (CV777)** circa 1979, parallel / serial diskdrive/ monitor - £90 ono. Un-used Quadra 950 AV motherboard, all ports and connections. Needs PSU and case - £75 ono. Both for £150 or WHY. ☎ 01442 871235, fax 01442 863535 or e-mail: chriseverall@usa.net

■ **Modem**, new, boxed and un-used, Global Communications 33.6, includes Internet connection kit and Global fax software - £100. Monitor, new, boxed and un-used, 15-inch monitor - £200. Caroline ☎ 0171 808 8905

■ **PowerMac 7100/80** 241G/CD CPU reliable music-mac, + VST + Recycle + Hyper Prism on disk - £850. Audiomedia I Nubus-Audio card - £95. 660A/V 12/500/CD CPU, Audio / Video in/out - £550. Mick ☎ 0113 246 9254 (after 6pm)

■ **PowerBook 190CS**, 8/500, power adaptor - £500 ono. 630 CD, 4/350 CPU only - £175. ☎ 01526 352682

■ **Thunder Accelerator** for LC/LCII, disks, manuals, only one year old - £75. Macally extended keyboard, hardly used - £35. ☎ 0171 427 9116 (work) or 01727 761974 (evenings)

■ **Performa 630**, CD/TV, 20/350, 15-inch monitor, keyboard, mouse, excellent condition, boxed, manuals - £740. Bedford, ☎ 01234 357694

■ **PowerMac 7200/90**, 16/700 CD, Apple 14-inch monitor, extended keyboard, - £1,350. ☎ 1922 445635

■ **Mac II** with keyboard, 13-inch colour monitor and postscript, b/w printer - £500 ono. ☎ 01562 827047

■ **3Mb VRAM** for 8200/120. New - £90. Herts ☎ 01462 459666

■ **External SCSI box**, CD-ROM drive bay, 2 x HDD - £30. Mac SE/30 analog board - £25 or swap 4 x 1Mb SIMMs or fax/modem. ☎ 01480 406415 (evenings)

■ **Close Combat and Warcraft** – £30 each or £55 for both. Includes manuals. Jamie ☎ 0181 368 5756

■ **Microsoft Office v4.2.1** CD, *ClarisWorks 3*, *Claris Organizer*, *StuffIt Deluxe 4*, *Avid VideoShop 3*, *Marathon & 2*, *Norton Utilities v3.2.1*. Offers for any. Clive ☎ 01225 862506

■ **CodeWarrior v9**, C/C++/Pascal CDs, boxed – £50. *Symantec Think C 6.0* disk, boxed with manuals – £60 (incl. p & p). Sunderland, Malcolm ☎ 0191 581 0808

■ **xRes v2** (current edition) Mac/PPC CD and manuals (powerful *PhotoShop* alternative), un-used – £200 ono. John ☎ 01524 271015

■ **PowerPrint** (pre PowerPC) software and parallel adaptor, prints to hundreds of PC printers. Suitable companion to *PowerBooks* – £25. West Sussex, ☎ 01903 762846

■ **FreeHand Studio 7**, top drawing package with four programs, 500 fonts, Clipart etc, un-opened, genuine reason for sale. Offers – ☎ 01276 471321

■ **Outpost CD-ROM** – £20. *Monkey Island* – £15. *Monkey Island II* – £20. *Prince of Persia* – £15. Or £50 for the lot. All boxed and in perfect condition. George ☎ 0171 254 3511

■ **RSB 61, Canvas 3.5.5**, boxed, manuals – £150 each or offers. *Myst* –



£15, *Bernard's Marilyn* - £10, *3D Atlas* - £15. ☎ 01279 639 265

■ **7th Guest, Catz, Dogz** - £10. *Sam and Max, Star Trek Enhanced CD* (with original cast voices) - £15. *Alone in the Dark Trilogy* - £25. ☎ 01223 836153

■ **Painter and X2** for sale - £50. ☎ 01494 446636

■ **DiscWorld** - £20. *Zorg Anthology* - £15. *Infini-D v3.5* - £220. Boxed, manuals. *3D Atlas, Asterix and Peanuts*, Language Learning CDs - £10 each. Peter ☎ 01548 853356

■ **FWB CD-ROM Toolkit** disc and manual. Speeds up CD access times, CD ROM and audio playback - £10 only. ☎ 0161 832 1175

■ **Secrets of Luxor** - £20. *The Dark Eye* - £10. *7th Guest* - £5. Suffolk, Andy ☎ 01394 284971

■ **Director 4.04** CD, all manuals included, un-boxed. Genuine reason for sale, consider offers around £250-£200. ☎ 01902 652885 (eves only)

■ **RAM Doubler 1.6.2** - £15. *Norton Utilities 3.1* - £20. Peter ☎ 01524 388784

■ **Doom II** for sale or swap. Sell for £20 or will swap for *Worms*. Contact Lee ☎ 0181 777 3104

■ **Macromedia Authorware Interactive Studio**, contains *Director, xRes SE, SoundEdit 16, Deck II*. Competition prize, un-registered. un-used, ☎ 0181 549 5467 or e-mail: woollcombe@compuserve.com

■ **System 7.5.3** plus *ClarisWorks 3 CD* - £40. *ICK* - £25. *Descent* - £15. *The Dig* - £20. *Daedalus Encounter* - £10. *Enro Soccer* - £10. *Myst* £15. ☎ 01909 478807

■ **Day of the Tentacle CD** and *Prince of Persia HD* - £6 each. Perfect condition. Tom ☎ 01904 634166 (eves)

■ **Excel 5.0**, un-registered, un-used - £100. *Omnipage Direct OCR* software, un-registered - £25. *Wolfenstein 3D* game - £10. ☎ 01691 656195

■ **3D Software Strata Vision v4** - £140. *Specular Infini-D v3* - £190. Both boxed, un-opened and un-registered.

Daedalus Encounter - £9. Call (after 6pm) ☎ 01276 62780

■ **Dark Forces** - £20, *Doom* - £10, *Doom II* - £15, *Apache Longbow* - £25, *SimTower* - £15, *Star Trek* - £20. All boxed, as new, plus more for £10. ☎ 0171 724 0816

■ **Microsoft Excel 5** - £100, *Word 6* - £100, *Works 4* - £45. All un-used, un-registered, or will swap W.H.Y. ☎ 01438 721328

■ **PhotoShop 4.0** original boxed CD, with manual etc. Un-registered - £90. ☎ 01903 501515

■ **Macromedia Graphics Studio** (CD) which contains *FreeHand 5.5, Extreme 3D, xRes 2.0, Fontographer 4.1* and *Shockwave*. All manuals on the CD-ROM - £300 - un-registered. Ajay (after 5.30pm) ☎ 0121 777 9089

■ **Microsoft Office 4.21** on CD-ROM, un-registered, bargain at only £100. ☎ 0114 264 6535 (between 9-10pm)

■ **PageMaker 5.0a**, boxed with all manuals. £115 ono. ☎ 0131 447 8624

■ **System 7.5 disks**, Inside Macintosh books, *Doom, Full Throttle, Shockwave, Assault, Burncycle, Codewarrior Lite* and book, *Gravis Game Pad*. Will separate or £100 the lot. Simon ☎ 01277 624180

■ **Photoshop v4**, boxed and un-registered. The latest version of Adobe's No. 1 program. Call with offers. Marcus ☎ 0171 704 1328

■ **FaxExpress 4.0 SOCO** - £25, new, un-used, un-registered. Phone Andy ☎ 01227 832268 or e-mail: andy@stanier.demon.co.uk

■ **Grolier Encyclopedia, Quantum Gate, Monkey 2, Syndicate, Lemmings, Theme Park, Dark Seed, Iron Helix and more - £10 or swap. Jim ☎ 01343 842283**

■ **KPT Vector FX** - £39.99. *Poser 1.0* - £30.99. *KPT3* - £35. *Ray Dream Designer* - £49.99. *SimCity* - £10. fax machine - £49.99. All vgc and boxed. Grantham, Ben ☎ 01476 578454 (anytime)

■ **Photoshop 3.0**, un-registered, un-

opened, un-wanted. Was bundled with scanner. To sell for £150 ono. John ☎ 0115 952 5995 (after 6pm)

■ **Aldus PageMaker v4** - £70, *MacLink Plus v4.5* - £15. Both boxed, all manuals. ☎ 01273 554894

■ **DK Eyewitness Encyclopedia of Science** with original box - £15 inc. p&p. Manchester, Zain ☎ 0161 792 4426

■ **A-10 Attack, Lucas Archives Volume 1, Abuse**, - only used once - £30 each. *Syndicate* - £20. Jack ☎ 0113 284 2613

■ **Marathon** - £15, boxed, manual. Middy ☎ 0181 341 0700

■ **Nisus Writer 4** - £70 (un-registered). *Claris Organiser* - £20. *Adobe Audition* - £50. or will swap for *Soft Windows*. Anna ☎ 0171 792 0374 or e-mail: a.alavi@eastman.ud.ac.uk

■ **Actua Soccer**, plus *MacAlly Gamepad*, plus *Rebel Assault 2*, all new, only £60. Ross ☎ 0141 556 1170

Wanted

■ **Software package** required to run / program in "Basic" on Mac LC 10Mb RAM. Loughborough ☎ 01509 880191

■ **SoftWindows 1.0** urgently required for cancer research. Dr Bill Scott ☎ 01232 272118 or e-mail: w.scott@gub.ac.uk

■ **Any Macintosh system** for under £200. Must be reasonable condition, for school use, preferably 1Mb RAM or more. Iain ☎ 01474 814792 (after 6pm)

■ **A penpal from the UK**. If you are 13-16 years old. Please write to: Mikko Toivanen, Kylänmäki 226, 49640 Pajärvi, Finland. Long live the Spice Girls!

■ **Rebel Assault** on CD-ROM. Must be in good condition with all original manuals etc. Preferably local to Surrey. Sam ☎ 0181 643 2121

■ **PowerBook 520** or similar. Northants/Leics border ☎ 01536 770737

■ **HP 320 Inkjet Printer Installer** and fonts disks. Original software stolen with my Mac. Urgent. ☎ 0115 922 6017

■ **Claris Works 4.0**. Original disks, un-registered, as new for my Performa 400. Priced between £35 - £45. Mr Adams ☎ 01932 840010

■ **Apple PowerBook** - must be in good condition. £350-£400 available. Hawk-hurst ☎ 01580 752852

■ **Hypen RIP** software with dongle for Spectraset 2200. Will pay good honest price. ☎ 0141 775 3855

■ **RAM for SE/30** (2/4Mb), 1.44Mb floppy drive and internal HD (e.g. 100Mb) wanted. Also SE/30 accelerator, Apple portable CD-ROM. Cheap prices only please. Ian ☎ 01290 661082 or e-mail: earthrite@gn.apc.org

■ **EZ drive**, Syquest and spare cartridges, SIMMs for Performa 5200 and *Softwindows*. Anna ☎ 0171 792 0374 or e-mail: A.alavi@eastman.ucl.ac.uk.

Swap shop

■ **Avid VideoShop 3 CD** & manual, un-used and un-registered. Swap for Corel *WordPerfect 3.51* same condition. ☎ / fax France 00 33 2 97 22 93 27

■ **An Apple StyleWriter 2400** for an Apple *StyleWriter* 2200. If interested please ☎ 01494 864643 (after 6pm)

Books and magazines

■ **MACFORMAT** May '95 to Dec '95 with CDs and other recent *MacWorld* and *The Mac* CDs. All top condition. Bundle only. Offers - Matt ☎ 0181 948 3993

■ **MACFORMAT** issues 17-37 with CD - £50. The Mac - most issues, floppy and CD - call for which ones are available. Buckinghamshire, Nick ☎ 01628 486745

Help wanted

■ **Work experience wanted!** 15-year-old boy, looking towards career in 3D modelling / animation. Interests: English Heritage, architecture. Experience in *Infini-D*. Call Carol ☎ 01743 242039

MACFORMAT Reader Advertisement Form

Name
(Not for publication)

Address

.....Post code

Telephone

Date

Category

Hardware for Sale ☐

Software for Sale ☐ Wanted ☐

Swap Shop ☐ Contacts ☐

Help Wanted ☐ Fanzines ☐

User groups

New entry ☐

Updated entry ☐

For your free advert, please use this coupon or a photocopy. Only the words in the squares will be printed - use one square for each word and remember to include your contact phone number!

All ads are accepted in good faith. MACFORMAT can't guarantee insertion in a particular issue, and reserves the right to refuse or edit any ad. We can accept no responsibility for typographical errors or any losses arising from the use of this service.

Private advertisers only. Trade ads will not be accepted, including anyone advertising the sale of shareware or PD software.

MACFORMAT is not a forum for selling pirate software. If you are selling software, you must include a signed statement that you are selling the original issue disks and including all original manuals and documentation, and that you have not retained any copies of the software.

I have read and understood the conditions for the inclusion of my free reader ad.

Signed
Send your form to: MACFORMAT Reader Ads, 30 Monmouth Street, Bath BA1 2BW.



Win with MACFORMAT!

Win a MACH Speed card

Upgrade your PCI Mac to a speedy 180MHz 604e chip with this £440 card from CU!

Does your PCI PowerMac, which once seemed so fast, now feel too slow? Fear not. We've got an XLR8 MACH Speed 604e 180MHz processor upgrade card, worth £440, to be won. It's courtesy of Computers Unlimited, one of the UK's leading distributors of publishing and digital media authoring tools for the Mac. Founded in 1985, CU provides sales, marketing and support for over 40 companies like Radius, Dayna and XLR8.

The MACH Speed 604e is a replacement processor card, running at 180MHz, for PCI-based PowerMacs with a processor daughterboard socket such as the PowerMac 9500 or the Umax Pulsar. The card replaces your existing processor, so installation is easy. What's more, it

utilises Multiple Variable Processing (MVP) technology, which enables you to customise your computer's bus speed, bus ratio and processor speed via a series of DIP switches on the card for best results.

To enter, just answer the simple question below, and send us your answers by mail or telephone – see the "How to enter" box for details. Closing date is Friday 18 July 1997.

The question

The XLR8 MACH Speed card uses MVP circuitry. What does "MVP" stand for?

- (a) Mushy Vanilla Peas
- (b) Mac Video Player
- (c) Multiple Variable Processing

The rules

1. You must send us your entry by midnight on Friday 18 July 1997.
2. Employees of Computers Unlimited, Future Publishing and associated companies or their agents, and their families, may not enter.
3. Multiple entries are not allowed.
4. The editor's decision is final, no correspondence will be entered into and there are no cash alternatives. No purchase is necessary.

MF

How to enter

1. Post the coupon below (or a photocopy) to: XLR8 Competition, MACFORMAT, PO Box 494, Coventry CV3 1YT.
2. Alternatively, dial the XLR8 Compo Hotline:

0891 553343

(The lines are open 24 hours a day, and your call should take no longer than three minutes. Calls are charged at 50p per minute at all times. You will have the opportunity to opt out from having your name included on a mailing list.)

Send this coupon (or a photocopy) to: XLR8 Competition, MACFORMAT, PO Box 494, Coventry CV3 1YT.

Title First name

Surname

Address

Postcode

Daytime telephone

Date of birth Sex:

Your answer

(circle one)

(a)

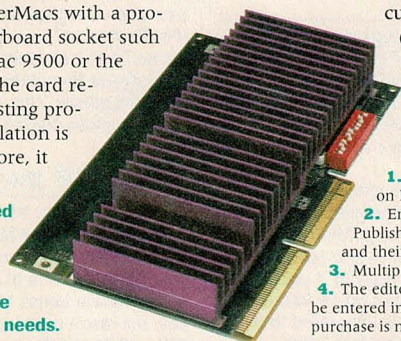
(b)

(c)

Your answers to the above questions will be used by Future Publishing for internal marketing purposes. All information will be treated under the terms of the Data Protection Act. Tick here if you do not wish to receive details of other offers from Future Publishing or other carefully selected companies. ☐

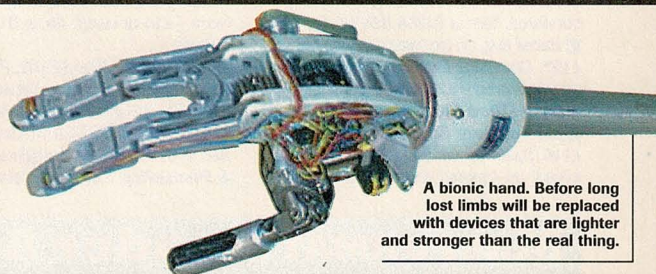
Mag code: MCF

The MACH Speed has adjustable DIP switches that enable you to customise the card to your needs.

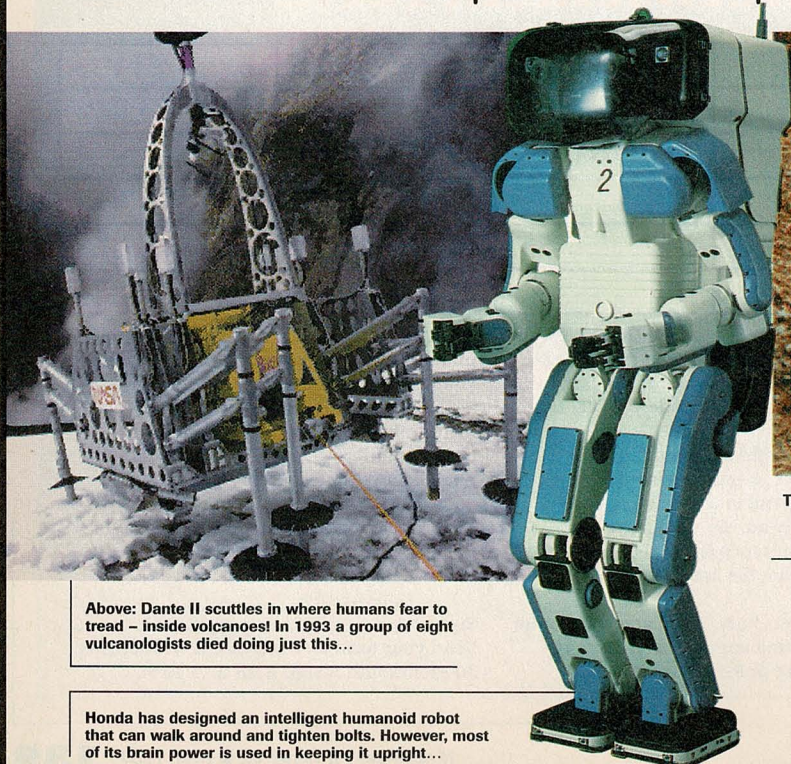


ROBOTS!

Will the real R2-D2 please stand up?



A bionic hand. Before long lost limbs will be replaced with devices that are lighter and stronger than the real thing.



Above: Dante II scuttles in where humans fear to tread – inside volcanoes! In 1993 a group of eight volcanologists died doing just this...

Honda has designed an intelligent humanoid robot that can walk around and tighten bolts. However, most of its brain power is used in keeping it upright...



The ROAMS recon-robot sneaks behind enemy lines using satellite guidance and a remotely-controlled video camera to avoid things like traps. And stairs.

How long before robots are doing your job? Find out in T3 issue 8



On sale now! £2.95



Astronomical bargains

Impressed by *RedShift* on our bonus Cover CD? Here's your chance to get hold of three more, equally dazzling astronomy CDs from Maris, all at a **MACFORMAT** exclusive discount price!

What could possibly lie beyond the universe of *RedShift*? The updated *RedShift 2*, that's what! Maris Multimedia drew on data from Russian space missions to improve *RedShift* and added new algorithms to calculate orbits and track the paths of comets, satellites and space probes with even greater realism. There are ten narrated movie-quality animations explaining basic principles, and an enhanced interface giving you even greater control.

For an even more involving astronomical experience, Maris's *Solar System Explorer* puts you at the controls of your very own spaceship, in which you can travel to any point in the universe. Based on real-time orbital theory from the Russian space programme, *Explorer* includes a "museum" with data on just about the entire history of space flight, which you can use to recreate

historical missions if you wish. You can view VR models of classic craft like Apollo or Viking or access details on the planets, animations and much more.

For younger children and novice astronomers, there's also *Discover Astronomy*. It eases you into the subject with animations and tours but also offers a wealth of information on all the planets, 3D virtual reality fly-bys, 50 engrossing space simulations, and much more.

Order now at these special prices!

■ **RedShift 2** (RRP £39.99) – just £29.99! (Order code MFRS2)

■ **Solar System Explorer** (RRP £34.99) – just £24.99! (Order code MFSSE)

■ **Discover Astronomy** (RRP £17.99) – just £14.99! (Order code MFDA)

■ **All three** just £55 (order code MFMAR) – save nearly £38!

■ **To order**, just use the form on page 142 and specify the appropriate order code. All prices include delivery and VAT, but this offer is open only to UK readers – sorry! Offer ends 31 July 1997.



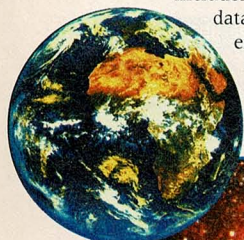
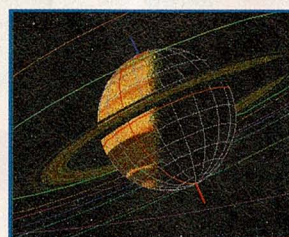
Discover Astronomy is ideal for children – and for newcomers to astronomy who would rather not be blinded by science...

As well as dazzling photos, *Discover Astronomy* uses simple animations to explain astronomy, and features nine guided tours.

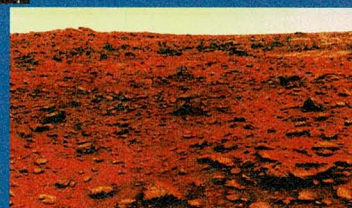


In *Solar System Explorer* you pilot a virtual spaceship through the heavens, with an on-board museum full of fascinating info.

With movie footage, photos, specs of pioneering missions and VR simulations, *Explorer* is just like being there yourself.



Visit the surface of Mars or Venus, hitch a ride on Halley's Comet or Voyager... It's all in *RedShift 2*.



Tutorials on key topics are included, with over 30 minutes of original movie-quality 3D animation.



The most comprehensive, spectacular and rivetting astronomy program ever? We thought so in our review in *MACFORMAT* 32.





Fax-back

Is the back issue you're after sold out? Did the dog eat your prized MACFORMAT collection? Fear not, help is at hand with our new fax-back service. Just call us on your fax machine, key in the code for the review, how-to or group test that you want, and it is faxed right back to you automatically.

(Note that you need a combined phone/fax)

1. Dial **0891 154662** and wait for a fax check.
2. Then key in the **three-digit code** for your chosen feature.
3. Press Start/Send to receive the fax-back.

Product reviews

		Code
PowerBook 1400	MF45	001
Photoshop 4 & alternatives	MF47	002
FreeHand 7 & alternatives	MF47	003
Apple MessagePad 2000 & 130	MF48	004
CorelDraw 6	MF44	016
Hitachi 17MVXv2 monitor	MF44	017

How-to's

Handling foreign graphics formats		
Part 1: first steps	MF40	005
Handling foreign graphics formats		
Part 2: converting formats	MF41	006
Handling foreign graphics formats		
Part 3: which software?	MF42	007
Create a duotone in QuarkXPress	MF45	008
Relational database basics	MF44	018
Using relational functions in FileMaker Pro 3		
Part 1:	MF43	019
Part 2:	MF44	020

Group tests

Storage devices	MF43	009
Buying a CD-ROM drive	MF44	010
PC emulation	MF46	011
Input devices	MF47	012
3D software overview	MF47	013
Removable storage	MF48	014
Storage basics	MF48	015
Choosing a printer	MF44	021

Features

Gil Amelio interview	MF44	022
----------------------	------	-----

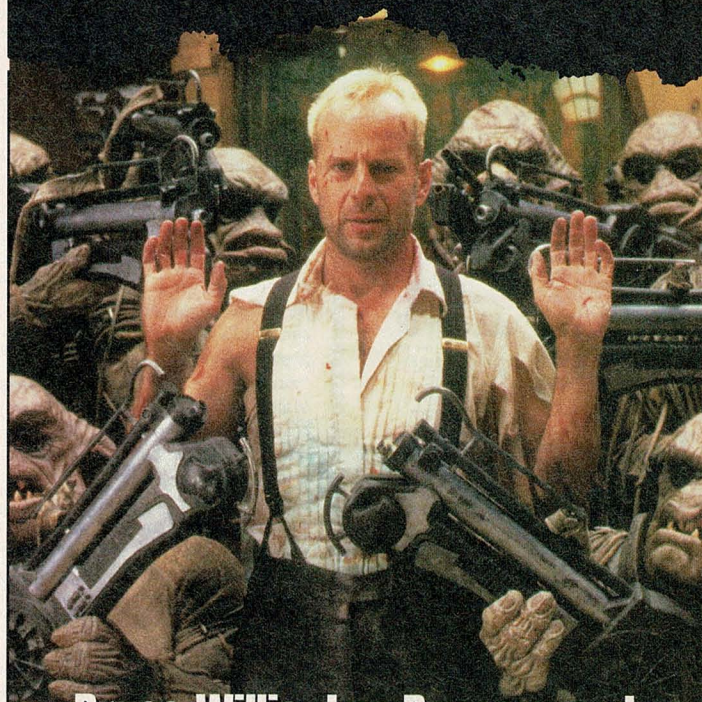
Fax-back calls cost 50p per minute at all times. It takes between two and eight minutes per page, depending on the quality of the phone line, specifications of your fax machine, and the number of photographs on a page.



COMING SOON IN

TOTAL FILM

THE FIFTH ELEMENT



Bruce Willis, Luc Besson, and the brainiest sci-fi blockbuster since Blade Runner...

PLUS!

Con Air: this year's all-action answer to *The Rock*.

Gridlock'd: Tim Roth and Tupac in the Yankee *Trainspotting*.

So you wanna be a stuntman? Our man learns the ropes...

It's all in **Total Film 6**.
On sale Thursday 5 June.



Winners

Announcing the lucky winners of recent competitions...

Back in MACFORMAT 46, we gave you the chance to win one of five "virtual office" accounts free for a year with the JFAX Personal Telecom service, worth a total of over £500.

JFAX enables you to redirect your faxes and phone calls and stores them so you can collect them as e-mails or voice-mails via the Internet whenever you want

to, and wherever you are. You can offer clients a London contact number, or a New York or American 1-800 number, providing you with a "virtual office" in the States without the costs of setting up a real office there. Or you could choose a number in any of the 13 cities in the growing

JFAX network, which already includes Toronto and Johannesburg too.

The five winners who'll soon be enjoying their newly-international virtual offices are: Mr G Higgins of Birmingham; Geoff Manual of Ilford in Essex, Mr C Jenkin of London E10; Mrs Chantal Stokkink of Bernos Beaulac in France (pretty international to start with, then); and Mr J Wong of Belfast. Congratulations to all!

MF

Upping the grade - the Tiny Zone!

Hello and welcome again to Tiny Zone, the section of MACFORMAT that's seen plenty of changes, and even a few improvements... There's an old joke that says the part of a car most prone to fail is the nut behind the wheel, and the same principle seems to apply to computers as well: the part of a Mac set-up that needs upgrading most is probably the user. Now, you may think Tiny Zone is being small-minded, but there were some telling figures in an article in *The Guardian* last month about a support service company called Softbank PSC. Apparently Softbank handles the tech support for around 40 companies, including Glaxo and Comet. To quote the article: "In the retail sector, up to one in five PCs sold gets returned because it isn't working; 95% are fault-free when they reach Softbank, it's just that they are too difficult to set up." Buyers do want - need - computers that are idiot-proof to set up and get running. If Apple is looking for another theme in its "Only Apple" series of adverts, surely this one is a dead certainty...

How to contact MACFORMAT

Editorial enquiries

MACFORMAT, Future Publishing Ltd, 30 Monmouth Street, Bath BA1 2BW. Tel: 01225 442244, fax: 01225 446019

E-mail: macformat@futurenet.co.uk

Web site: MACFORMAT is on-line as part of FutureNet. Accessing it is free (except for your phone bill, of course) - point your World Wide Web browser at: <http://www.futurenet.com/>

AOL: MACFORMAT also has its own area within AOL in the UK - go to keyword **MacFormat**

Sending us a letter?

Send your letters to the address above - the shorter they are, the better their chances of being printed. E-mail letters are welcome too - please put "Apple Talk" in the subject line. If you'd like a letter included in the Readers' Corner on our Cover CD-ROM, make sure it contains no defamation or obscenity, then send it in as a *SimpleText* document (so anyone can read it!) on a disk marked "MACFORMAT Readers' Corner". Make sure you include your name and address, and note that we can't return your disk.

■ If you send us a fax, please write "MACFORMAT" prominently at the top so that our receptionists know which of Future Publishing's 50 magazines to forward it to.

■ The legal stuff: all correspondence sent to our editorial address will be considered for publication unless you specifically state otherwise, and we reserve the right to edit letters for reasons of space, clarity or legality. By writing to us, you agree to assign all copyright in your letter to Future Publishing Ltd and its licensed agents worldwide, so we can translate it for our Taiwanese edition next year... if it's good enough. And no, you can't have it back afterwards.

Problems or questions?

■ Sorry, but we cannot give personal help with technical problems or buying advice, whether by phone, fax or e-mail. If you have an urgent problem with a new Mac, try the Apple Assistance Centre on 01753 615999.

■ We try to make ourselves available to answer Cover Disc related and general reader calls on Wednesday afternoons from 2pm to 6pm, so please ring then if you have to. We cannot answer technical queries over the phone - sorry! We hope you'll understand that because we receive so much correspondence we can't promise to reply to faxes, e-mail or mail personally, even if you include an SAE. However, rest assured that we do read all correspondence we receive.

Advertising enquiries

Helen Watkins on 01225 442244

Subscription enquiries

(If enquiring about an existing subscription, mention your subscription number - it's the one starting with "Q" - and the address)

Subscriptions, Future Publishing Ltd, FREEPOST (BS4900), Somerton, Somerset TA11 6BR

(No stamp needed if posted in the UK)

Subs tel: 01225 822510 (8.45am-4.30pm)

Subs fax: 01458 274378 (24 hours)

Subs e-mail: subs@futurenet.co.uk

ABC MACFORMAT's circulation is independently audited by the Audit Bureau of Circulations

Average circulation per issue, July-Dec 1996

43,680

Editorial

Editor Alex Summersby ■ Deputy Editor and News guru Richard Hill ■ Operations Editor Cathy Parnham ■

Production Assistants Clare Lydon, Emma Parkinson ■

Disc Ed Brian Smith ■ Technical Writer Lindsay Bruce ■

Editorial Assistant Jane Bentley ■ Contributors

James Ashton, Jim Chandler, Alistair Dabbs, Jonathan Ferman, Mike Goldsmith, Rod Lawton, Emma Parkinson, Nick Peers, Linda Plain, Matthew Richards, Nic Rodgers, Derek Smith, Ian Waugh, Garrick Webster

Art

Art Editor Mark Nottley ■ Deputy Art Editor Nick Aspell

■ Photography David Benson ■ Pagehead cartoons

Willie Ryan ■ Cover image enhancement Chris Stocker

Advertising (01225 442244)

Senior Ad Sales Exec Helen Watkins ■ Classified Ad

Sales Exec Jacqui Russell ■ Production Coordinator

Rebecca Stables ■ Ad Design Cherry Coad

Publishing

Publisher Jane Ingham

MACFORMAT on-line

On-line Editor A big welcome to Ed Haynes, who is going to be doing magical things with MACFORMAT on AOL! Drop by using the AOL software on MACFORMAT 50's CD, check out our area-in-progress and let Ed know what you think - e-mail ehaynes@futurenet.co.uk or macformat@aol.com

Pre-press, scanning, imagesetting

Jon Moore, Brian Hook, Jonathan Wakeham, Richard Davies, Neil Owen, Jason Tittle, Simon Windsor, Tim Peel, Liz Cheney, Mark Gover, Oliver Gibbs, Brett Caines

Systems

Avi Abadi, Christian Goddard, Nick Harvey, Derek Smith, Jansen Dennett, Andrew Dellenty, Sue Burn

Future Publishing Ltd

Managing Director Greg Ingham ■ Group Ad Manager

Simon Moss ■ Marketing Gill Stevenson, Simon Howarth,

Simon Steele, Georgina Saunders ■ Computing Division

Production Manager Richard Gingell ■ Assistant

Production Manager Charlotte Brock

Pearson New Entertainment

Chairman Nick Alexander ■ PR and Publicity Liz

Ramsay, Jenny Press, 0171 331 3920 ■ Business

Development Richard Bogie, 0171 447 3301 ■ Overseas

licensing If you are interested in licensed re-publication of this magazine (or any part of it) overseas, contact Katie Cunningham, phone +44 171 331 3920, fax +44 171 447 3499, e-mail kcunningham@pne.co.uk

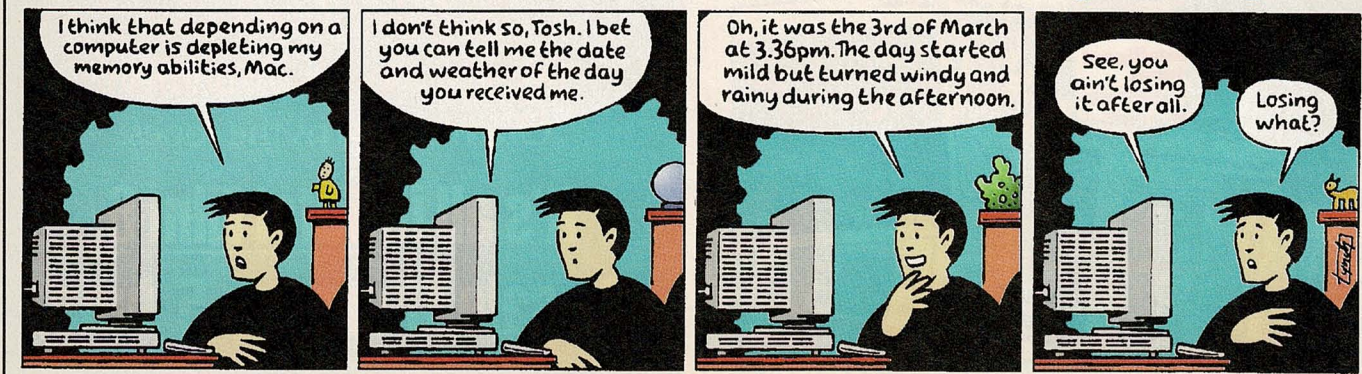
Printed in the UK by Southernprint Ltd, Poole, Dorset

■ MACFORMAT welcomes contributions for publication but we regret we cannot return them. Submissions are accepted on the basis of full assignment of copyright to Future Publishing Ltd, unless otherwise agreed in advance and in writing. We'll assume that all correspondence is for publication (on the basis of full assignment of copyright) and that all CD-ROM demos or readers' submissions may be incorporated on a Future Cover Disk/CD-ROM unless you expressly say otherwise in writing. We reserve the right to edit letters or other contributions for reasons of space, clarity or legality.

■ MACFORMAT is an independent journal, not affiliated in any way with Apple Computer, Inc. The Apple logo is a registered trademark of Apple Computer, Inc. 'Apple', 'Macintosh', 'Macintosh Performa', 'Power Macintosh', 'Mac' and the Mac and Mac OS logos are trademarks of Apple Computer, Inc. All trademarks and copyrights in this issue are recognised, and are acknowledged where possible. If we have failed to credit your copyright, please contact us - we will be happy to correct any oversight.

Mac and Tosh

by Bob Lynch





Here's a plug for our next issue

Get connected and a new world opens to you! We explain all you need to know about linking your Mac to the outside world – a friend's Mac for games, an office network or the Internet!

Plus...

- Probably our best Cover CDs ever! A complete £500 3D suite, yours *free*, exclusive demos, and much more!
- Authoritative group tests of fax-modems and e-mail software, plus a big guide to Mac-friendly Internet Service Providers
- Reviews of the latest games, yet another new spreadsheet program, movie multimedia, and the top-of-the range PowerBook 3400/240 (well, you can dream...)
- How to get more from ClarisWorks, DTP/design tips, problems solved, and more!

MACFORMAT 53 goes on sale on Thursday 3 July. Reserve your copy with your newsagent now, or turn to page 99 for our special subscription offers!



Win with MACFORMAT!

Win a Umax Apus 2000AV

Like a new Mac with full audio-visual capabilities? We've got a Umax Apus 2000AV set-up worth nearly £1,500 to be won, courtesy of IMC Distribution.

Paper is old hat these days. What you want in a new Mac compatible computer is not just the power for traditional DTP but the capability to create great multimedia, with QuickDraw 2D and 3D acceleration, video capture and playback, CD-quality SRS 3D surround sound, even the ability to output straight to a TV or video tape. The Umax Apus 2000AV offers all this and more – and we have one to be won, together with an Optique 15-inch colour monitor, courtesy of IMC Distribution! IMC is one of the UK's leading specialist distributors of products from companies such as Sony, ViewSonic and Umax.

The 2000AV is a compact desktop machine little larger than a briefcase, but inside there's a 160MHz 603e processor, on an upgradable processor daughterboard (200MHz and 240MHz Umax daughterboards are available right now). It comes fitted with 32Mb of EDO (Extended Data Output) RAM, upgradable to 144Mb using either EDO or fast-page DIMM memory upgrades.

There's an eight-speed CD-ROM drive, and storage space shouldn't

be a problem, either, with a 1.2Gb fast IDE internal hard drive. What's more, there's an ATI Xclaim VR graphics card fitted, giving you breathtaking AV capabilities. The Apus 2000AV boasts video input for capturing stills and QuickTime movies up to 320 x 240 at an impressive 25 frames a second, and as for playback: there's QuickDraw 2D and 3D hardware acceleration, support for display resolutions up to 1,152 x 870 in 16.7 million colours, as well as stunning CD-quality STS 3D surround sound.

The prize comes complete with an Optique 15-inch monitor, featuring superb on-screen display, a tilting base and an energy-saving auto power-off feature. Or if you prefer, the 2000AV can output flicker-free full-screen, full-motion video using its Mac2TV video output port straight to a standard TV set or direct to video tape – ideal for presentations or video editing uses (or playing the latest QuickDraw 3D games on your big-screen TV with surround sound effects – games consoles, watch out!).

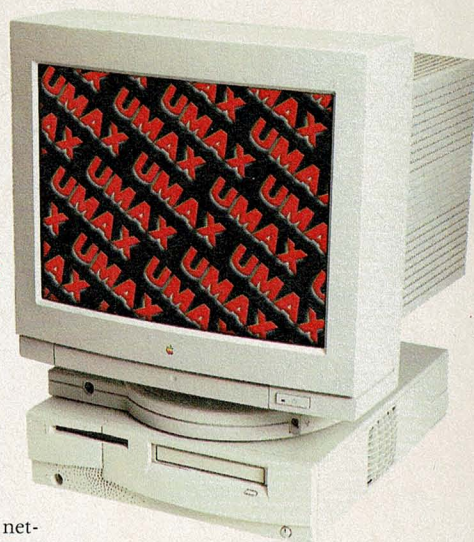
There is no need to be alone with the Apus, either. With built-in LocalTalk networking capabilities

(or optional 10Base-T Ethernet upgrade, using one of the two free PCI expansion slots), you can easily connect to the office network. You can get on the Internet at a speedy rate, send and receive faxes right at your Desktop, and even establish your own voice-mail system using the included Modula 33.6Kbps external modem.

The Apus comes bundled with a vast array of software too. You can get creative with the Macromedia *FreeHand Graphics Studio*, comprising top vector drawing program *FreeHand 5.5*, *Extreme 3D*, *xRes 2.0* image-editing suite and the industry-standard font creation package *Fontographer 4.1*. The integrated package *ClarisWorks 4* is also included, enabling you to create spreadsheet, database, drawing and word processing documents.

There's no shortage of utilities either, with *FWB Hard Disk Toolkit*, *FWB CD-ROM Toolkit*, *TechTool Pro* and Internet Access software offering a free 30-day connection (excluding Lo-Call charges) through Netmatters ISP. The latest version of the Mac OS, System 7.6, is also included, offering significant performance and bug enhancements over previous releases of the System.

All this can be yours! To enter, all you have to do is answer the three simple questions to the right and send us your answers by mail or telephone – see the "How to enter" box for more details. The closing date is Friday 18 July 1997.



Win this Umax Apus 2000AV! (The monitor supplied will be different...)

The questions

- What speed does the Umax's PowerPC 603e processor run at?
(a) 20MPH
(b) 160MHz
(c) 300 horsepower
- Which of the following pieces of software does *not* come bundled with the Umax Apus 2000AV?
(a) *FreeHand Graphics Studio*
(b) *ClarisWorks 4*
(c) *Coffee-Maker Pro*
- The internal hard drive in the Apus is very large. What size is it?
(a) 1.2Gb
(b) 500m x 300m
(c) Two football pitches

The rules

- You must send us your entry by midnight on Friday 18 July 1997.
- Employees of IMC Distribution, Future Publishing and associated companies or their agents, and their families, may not enter.
- Multiple entries are not allowed.
- The editor's decision is final, no correspondence will be entered into and there are no cash alternatives. No purchase is necessary.

MF

Send this coupon (or a photocopy) to:
**IMC Umax Apus Competition, MACFORMAT,
PO Box 494, Coventry CV3 1YT**

Title First name

Surname

Address

.....

.....

Postcode

Daytime telephone

Date of birth Sex:

Mag code: MCF

Your answers

- 1 (circle one) (a) (b) (c)
2 (circle one) (a) (b) (c)
3 (circle one) (a) (b) (c)

To help us improve MACFORMAT, please answer the questions below. You will be entered in the competition even if you choose not to answer them.

- Do you subscribe to MACFORMAT? ☐ Yes ☐ No
Where do you use a Mac most often? ☐ Home ☐ Work
What do you mainly use your Mac for? (Tick all that apply)
☐ Education ☐ Games ☐ Internet ☐ Multimedia
☐ Art/design ☐ DTP ☐ Accounting ☐ Making music
☐ Programming ☐ Word processing ☐ Spreadsheets
☐ Databases ☐ Creating presentations ☐ Other

Your answers to the above questions will be used by Future Publishing for internal marketing purposes. All information will be treated under the terms of the Data Protection Act. Tick here if you do not wish to receive details of other offers from Future Publishing or other carefully selected companies. ☐

How to enter

- Post the coupon at left (or a photocopy) to:
**IMC Umax Apus Competition, MACFORMAT,
PO Box 494,
Coventry CV3 1YT**

- Alternatively, dial the
**MACFORMAT IMC Umax Apus
Competition Hotline:**

0891 553342

(The lines are open 24 hours a day, and your call should take no longer than three minutes. Calls are charged at 50p per minute at all times. You will get the opportunity to opt out from having your name included on a mailing list.)

ONLY
£10
per month*

If you're after an internet
access provider that's

mac friendly

NetMatters has the answers

service type	email boxes	set-up charge	monthly subscription	annual subscription
modem dial-up	1	£12	£10	SAVE £20
modem plus dial-up	5	£15	£12	SAVE £24
ISDN dial-up	1	£20	£20	SAVE £40
ISDN plus dial-up	5	£25	£25	SAVE £50
networked ISDN	10	£95	£75	SAVE £75
leased line 64k	50	POA	POA	POA

100% UK coverage
at local call rate

Mac & Windows
fully compatible

no on-line charges

free internet
software CD-Rom

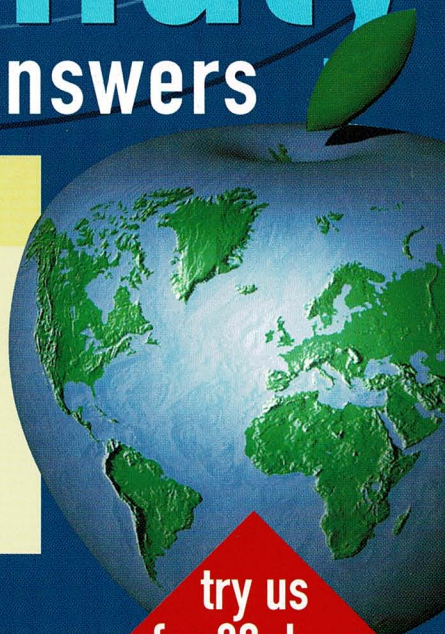
33.6K modems
(15:1 ratio)

free 5Mb of
web space

web page design
& storage

ISDN & leased
line access

free technical
support 7 days
a week



try us
for 30 days
absolutely
FREE



NetMatters
The Service Provider

*Price excludes VAT

NetMatters is a division of
Graphics Matter Ltd.

call 0345 57 33 77

info@netmatters.co.uk

<http://www.netmatters.co.uk>

Ring us between
8:00 am & 6:00pm

Power Tower

**MAC
& PC**

NEW

ONE 2.0/4.0 GB external
DAT drive with Dantz
Retrospect and 1 DAT tape

£479
(£563)

ONE 2,6 GB
external MO drive

£899
(£1,056)

Tested in
the German c't number 8/96:
"At present the most attractive
equipment. On test it is clearly
the fastest and moreover the
cheapest you can get."

ONE 2x/6x external
CD-Recorder incl. CD-writable
and software Toast Pro 3.0

£323
(£380)

ONE 2,0 GB
external hard drive

£269
(£316)

ONE 1,0 GB
external JAZ drive
incl. 1 cartridge

£275
(£323)

ONE 640 MB
external MO drive

£333
(£391)

Internal hard disks from ONE Technologies

Capacity	Interface	Access Time	Price	Price incl. VAT
2,000 MB	SCSI-2 FAST	8.5 ms	£222	(£262)
3,000 MB	SCSI-2 FAST	10.0 ms	£245	(£288)
4,000 MB	SCSI-2 FAST	9.0 ms	£449	(£528)
4,000 MB Pro AV	SCSI-2 ULTRA	8.3 ms	£666	(£783)
9,000 MB Pro AV	SCSI-2 ULTRA	8.3 ms	£929	(£1,092)

All external drives delivered complete ready to plug in. Incl. SCSI- and net cable, active terminator and driver software.

Call now for more information



01223 507 705



01223 507 711

Disc Direct Computer Ltd., The Innovation Centre 140/9, Cambridge Science Park, Cambridge CB4 4GF

All prices are ex VAT and carriage. Carriage up to 20 kgs £7. Prices in brackets are including VAT. No responsibility accepted for price changes, goods out of stock, printing errors. Reseller application forms available on request.



Tel. 87301515
Fax 87301511



Tel. 07248/911-100
Fax 07248/911-911



Tel. 08/911194
Fax 08/911195



Tel. 0160058989
Fax 0160058999



Tel. 0222/9839300-0
Fax 0222/9839300-33



Tel. 2220 4222
Fax 2220 4221



DISC DIRECT
COMPUTER LTD.